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OBSERVATIONS
ON THE
HISTORY AND CURE
OF THE
ASTHMA;
IN WHICH THE PROPRIETY OF USING
THE COLD BATH IN THAT DISORDER
IS FULLY CONSIDERED.

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P R E F A C E.

AMONG the various chronic complaints to which the human frame is liable, very few can be considered of a more formidable nature than a confirmed asthma. The idea of its being an incurable disorder, its threatening instant suffocation at every attack, are circumstances altogether so alarming to a patient, as must necessarily weaken and depress a mind endowed with the utmost fortitude and resignation. Any remedy then that could be found capable of administering permanent relief, to a person in such an afflicting situation, must be looked upon as of the utmost importance to mankind.

Unhappily, however, the efforts of physicians hitherto, in the asthma, have generally failed in that respect. Hence it is,

that they have seldom in view a radical cure in their treatment of asthma: conscious of the inefficacy of the present practice for producing such an effect, they content themselves with medicines to alleviate pain, and seek not for a balsam to consolidate the wound.

Very lately, indeed, a particular medicine has been highly extolled by an industrious and ingenious physician, and is said by him to have repeatedly effected complete cures. How far this remedy may be entitled to such high encomiums, it will probably require the test of future experiment to determine. Leaving this matter to be settled by other practitioners, it is the Author's intention to recommend, in the following Essay, a different mode of treating the asthma, which facts and observations evince to be of very considerable efficacy in the cure of this disorder.

Cold-

Cold-bathing has been mentioned as a remedy for asthma by a few practitioners, but it never has been considered of such utility as to bring it into any general repute. The timidity of physicians, or a want of confidence in such a practice, has raised a prejudice against it, as may be seen by perusing the late writings of some of the most eminent in the profession, wherein the cold-bath is not numbered in the catalogue of remedies.

To be dismayed, however, by such a consideration, would argue a weak and slavish attachment to the systems of men of character, and betray a dread of making any innovation dangerous to opinions established by high authority. In no case whatsoever is such servility more unpardonable than in the present, as in no disorder is there probably greater room for improvement, from the fluctuating and unsuccessful

ful

ful state of the practice in asthma: an undertaking, therefore, to discover how far cold-bathing is adapted to its cure, does not seem to require an apology, but merits some attention from the Public.

As it is the principal object of this Essay, to consider the effects of cold-bathing on asthmatics, and by facts and cautious deductions to render the practice as universal as possible, the Author, of course, cannot enter into a full discussion of the history and cure of the disorder after the manner of former writers. Several observations, nevertheless, have occurred to him on each of these subjects; and as, in his opinion, many of them have been made with accuracy, he thinks it his duty to impart them to the Public.

Kilkenny, July 1, 1792.

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P A R T I.

B

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C H A P. I.

EVER since it became fashionable in physic to explain the disorders of the human body by means of the nervous system, physicians consider themselves as having very much improved upon the ancients both with respect to their history and cure.

In a particular manner, the asthma may be said to have undergone a change that reflects no inconsiderable degree of lustre on this reformation.

That some advantage has resulted to me-

dicine at large from the modern pathology, it would be unfair to deny; but it would argue an equal want of candour not to admit, that however specious and seemingly conclusive the reasonings of modern writers may appear, very little real or solid benefit have asthmatics derived from their doctrines and opinions.

On turning over the writings of the ancients, we find that the asthma has been pointed out as a distinct disorder from other affections of the chest; and though some inaccuracy and confusion may be detected in their descriptions, by those who wish to find fault with every information coming from this source, and who religiously adhere to the definitions of modern writers, nevertheless an unprejudiced reader will readily discover those strong and peculiar features of the disease amply delineated in most of the ancient writings.

It is true that, from a very early period down to nearly the present time, the title of asthma has been often indiscriminately given to many different complaints of the lungs: but still the characteristic marks of a spasmodic affection of the lungs are preserved in every work of eminence, and are accurately drawn by almost every pen.

Sir John Floyer himself, who had so much experience in this disease, and who has described its various symptoms with such minuteness and precision, has fallen into this error, if with propriety it can be called such; for he arranges, under the head of asthma, several disorders of the lungs that have not the smallest affinity to a spasmodic, or what we in these days strictly denominate asthma.

In another point of view, that merits some attention, we find the ancients and

moderns differ very materially. In the writings of the former, we find the paroxysm of the disorder and all its attending symptoms judiciously drawn, its periodical return very frequently mentioned, with every other circumstance that could be supposed to assist in elucidating its history; but with this difference, that in the intervals of the fits the breathing is alleged to be difficult and distressing: while the latter, considering every such permanent affection of the lungs as the offspring of inflammation, obstruction, &c. insist that a complete intermission between each fit, and a total freedom from disease, are necessary to constitute the essential and pathognomonic signs of this disease.

In order to decide on this point with impartiality, and to settle, if possible, this contrariety of opinion, it is necessary to take a view

view of the asthma as it occurs in different persons in this climate.

Every practitioner who has attended to the phenomena of asthma, must acknowledge the disease to be very constantly of a mixed and complicated nature, the spasmodic affection being often combined with obstruction from fluids accumulated in the lungs, or from some other very powerful cause. Hence it often changes from an intermitting to a continued type. This is supposed by most of the modern writers to take place in an advanced stage of the disease. They ascribe it to tubercles, water in the chest, &c. brought on by repeated fits of the asthma. But the same attentive observation should inform every practitioner, that even in an early stage the asthma is often of a doubtful nature, and assumes a continued type, at a time when there is not

a possibility of discovering any obstruction that could give it this appearance of a constant and a permanent affection of the lungs.

This, however, is not the opinion generally inculcated in the writings on asthma. If, after it has once been established in the constitution, it should happen to assume for any time a continued type, it is considered to be of a very formidable nature, and to arise from causes that are seldom in the power of medicine to remove. Thus Sir John Floyer says, “ When the asthma con-
 “ tinues for some months, it is a true pul-
 “ monic asthma, and depends on some
 “ disease in the breast, as dropfy, tubercle,
 “ abscess, which compress the bronchia; and
 “ till that evident cause be removed, it is
 “ impossible to cure the asthma fits*.”

* *Treatise on the Asthma*, p. 120.

But

But Sir John's own case is in direct opposition to this assertion: for he laboured under the asthma at least thirty years when he published his Treatise; and at that time he shewed no symptoms of obstruction, abscess, or any such disorder of the lungs.

In fact, we have frequent instances of persons living to an advanced age, in whom the asthma constantly changes from an intermitting form to a continued one, and, after remaining in this state for a considerable time, returns to its original shape without the assistance of medicine: thus Proteus-like varying its features and appearance according to the causes that may have been applied, to the habit of body, and other circumstances of the patient.

In such cases it would be irrational to suppose that either tubercle or abscess gave origin to the difficult breathing, as these disorders

orders generally carry symptoms of mortality with them, and seldom fail to produce an affection of the breathing that scarcely suffers any intermission.

The present generally received opinion on certain points in physiology, has probably had not a little influence on the minds of physicians with respect to the history of this disease. In conformity to the principles of this system, they consider it to be incompatible with the laws of the animal œconomy, that spasm, properly so called, can subsist for any considerable length of time without being alternated by a state of relaxation. This doctrine I shall not now attempt to combat; but I can venture to say, that I have seen persons subject to frequent attacks of asthma, who, in the intervals of the fits, were affected with a species of difficult breathing continuing for days, and sometimes

times for weeks, that evidently appeared to be of a spasmodic nature.

The case of M'Bay, to be given hereafter, is strictly in point, and highly illustrates this subject: for he had recourse to cold bathing with advantage, and persevered in its use while he laboured under stricture at the sternum, distension of the stomach, cough, uneasiness of breathing, with other symptoms clearly indicating a spasmodic affection.

It is scarcely necessary to mention, that, if obstruction of any kind had a share in bringing on this disorder, cold bathing would have been attended with very serious consequences. This is not the only instance of the kind that I had an opportunity of seeing: several others equally characteristic have fallen under my observation.

In some of them it appeared that the application

plication of cold to the lungs in a slight degree, was the principal exciting cause of the symptoms, though no catarrhal affection was present at the time; while in others they seemed to be the remains of the preceding paroxysm not thrown off completely by the constitution, or subdued by the remedies employed *.

Besides

* Doctor Withers has, in my opinion, very properly directed his attention to those cases wherein the asthma is complicated with some other complaint of the lungs. He justly observes, that, when the humoural asthma is united to the convulsive, the patient's breathing is often difficult and disturbed after the fit is over, and continues in that state from the conclusion of one paroxysm to the beginning of another. This he attributes to a quantity of phlegm collected in the air vesicles of the lungs, which harasses the patient until it is dislodged by expectorating medicines, or some other cause.

Treatise on the Asthma, p. 10.

But even in many cases of this kind, the stricture at the sternum just now mentioned, and which is evidently of a spasmodic nature, will be often found to accompany this form of the disease, and to aggravate every prevailing symptom.

Besides this appearance of the disorder in the absence of the fits, anomalous symptoms of asthma very frequently occur without any regularly formed paroxysm; and, as far as can be collected from their complexion and other circumstances, they appear to be of the same spasmodic nature with those just now described.

An author who undertakes to publish the history of any disease, is highly blameable if he omit to detail at full length those symptoms that arise during its progress, and that are found in any respect necessary for determining its just and precise character.

symptom. On no other supposition can we account for the oppressed and difficult breathing that sometimes occurs between the fits. The catarrhal affection no doubt will often contribute to produce this effect; but it is on many occasions altogether so slight and trivial, that it would be highly absurd to suppose it capable of producing such an affection of the breathing as we must often meet with in the absence of the fits.

It

It is not alone sufficient to delineate such symptoms as present themselves in the beginning of the disease: it is on many occasions absolutely necessary to attend minutely to those that come on at a later period, and are found to disturb the phenomena in such a manner as to give it the appearance of a disorder totally different to what it was at its commencement*.

Physicians think they have fully discharged their duty, if, after describing the patient's situation previous to the fit, they bring you to his bedside, point out with ac-

* Secundo, ea symptomata pro notis characteristicis præcipue feligenda putavi quæ perpetuo cum morbo præsentia sunt, et hoc quidem semper annitendum esse putavi. Cum vero plurimi morbi sub eorum decursu aliam atque aliam omnino formam capiant, in his ex serie rerum, et symptomatum sibi invicem succendentium, character sæpe necessario petendus est.

Prolegomen. Synops. Nosol. Method.

Cullen. vol. ii. p. 32.

curacy

curacy the peculiar noise of his breathing, the appearance of his countenance, the state of his pulse, and of every other function that happened at the time to be deranged ; then inform you, that as soon as these symptoms disappear, they leave the patient totally free from disease, but subject to attacks of a similar nature at any future period.

A person who has had any experience in the asthma, must be possessed of little or no talents for observation, who would consider such a history as this sufficient for directing a physician to form a just diagnostic in the variety of cases that daily occur : for though it were admitted to be the ordinary aspect that the asthma wears, the deviations from this appearance of the disease are altogether so frequent, as will necessarily perplex practitioners if not sufficiently on their guard ; at least I have found myself very much embarrassed

barrassed at times, after carefully perusing the best observations to be met with on its history.

In this state of uncertainty, I have been greatly assisted by attending to the following circumstances:—If the chest continue engaged in the absence of the fits without any obstruction or collection of phlegm in the lungs, the patient complains of a stricture at the sternum, somewhat analogous to the tightness that occurs in the fit, but in a slighter degree: his breathing, though not difficult or much oppressed, is by no means totally disengaged: he has a sensation of some weight pressing on his chest, that seems to diminish its cavity, and prevent the dilatation of the lungs. There is a peculiarity in the sound of the cough and breathing, in these cases, that should be closely attended to, and they will be in general

general discovered, by persons of a nice ear, to proceed from the lungs in a state of spasmodic constriction.

The stomach participates of the affection of the lungs, and is frequently disturbed with flatulence and other symptoms expressive of the deranged state of its functions. The pulse, on these occasions, should not be passed by unnoticed; and it will, for the most part, be found either of a natural quickness, or somewhat below the ordinary standard of a healthy person. If the latter should happen to be the case, lowness of spirits, and other signs of an hypochondriacal affection, will be found its constant attendants.

On the whole, if a person (after having perused the history of this disease as delivered by the ancient and modern writers) compares without prejudice their observa-

C tions

tions with what is presented to his view in actual practice, he will probably agree with me, that, notwithstanding the multiplicity of cases daily occurring, wherein the breathing is perfectly free in the intervals of the fits, instances of asthmatics will be frequently met with, whose breathing continues affected long after the violent fits have passed off, and at a time when no mark or vestige of obstruction could be discovered in the lungs.

Such are the remarks that have occurred to me, on considering the history of this intricate and stubborn disorder. I have very little doubt but that objections may be made to the hints I have suggested. However, it is some consolation to me, to find that I am supported in my opinion by one of the brightest ornaments of antiquity, and at the same time one of the most accurate observers

of the phenomena of diseases, I mean the celebrated Aretæus, who finishes his excellent description of the asthma in the following remarkable words: *εν δὲ τοις επανεσεσι καὶ
πειῶσι ορθοταξίῃ τῷ παθεῖ φερόσι ξυμβολα.*

De Sign. & Cauf. Morb. p. 40. *

CHAP.

* In addition to what has already been said on the nature of asthma, it may not be uninteresting to make a few observations more by way of illustration. In the generality of asthmatic attacks, after the paroxysm has subsided, the patient still feels the remains of the disorder about him; his breathing, from a stricture across his breast, is rendered uneasy, and it continues in that state till the succeeding fit comes on, when this and every other symptom arise to the same pitch as in the preceding. In this manner the disorder generally goes on for several days, and then begins to disappear insensibly, leaving the patient in a short time free from asthma, or any sort of difficult breathing. This is allowed by physicians to be the ordinary course of things in a regular attack of spasmodic or convulsive asthma; and it is worthy of notice, that, even in this simple and uncombined state of the disease, and whether it be of a short or long duration, the uneasiness of breathing very

C H A P. II.

EVER since the asthma became an object of attention with physicians, they have been diligently employed at different times in investigating its causes, and never was there a greater diversity of opinion displayed

frequently keeps its ground between the fits, and is principally kept up by the tightness of the chest just now mentioned. Moreover, when the disorder is protracted to any considerable length, without any decisive intermission, it will very often be found that the paroxysms of asthma will abate of their violence, and almost totally vanish, while the tightness across the chest, and its concomitant symptoms, will still continue to harass the patient. This in truth is so often the case, that it is not a little extraordinary, that systematic writers, in their definitions of asthma, should inculcate no other idea than that of a periodical spasmodic disease, without the smallest

played on any subject whatsoever. One writer ascribes the disease to a defluxion on the lungs, a second to plethora, a third to an affection of the nerves, and so on according to the system that happened to pre-

smallest allusion to a permanent affection, as may be seen by the annexed quotations.

Difficultas spirandi periodicè recurrens chronica.

SAUVAGE.

Respiratio difficilis periodica chronica cum sensu angustiæ in faucibus.

VOGEL.

Est chronica periodica respirandi difficultas.

SAGAR.

Spirandi difficultas per intervalla subiens, cum angustiæ in pectori sensu, et respiratione cum sibilo strepitu, tussis sub initio paroxysmi difficilis, vel nulla, versus finem libera, cum sputo muci sæpe copioso.

CULLEN.

I thought it unnecessary to insert the definition of Linnæus among the foregoing, as he runs into the opposite extreme, and defines some incurable obstruction of the lungs, rather than a spasmodic affection of these organs.

vail at the time. There are others who, in order to avoid the imputation of partiality to any system, enumerate all the causes that preceding writers have mentioned, arrange them under general heads, and, without any discrimination of their various intensity and power, ascribe an equal degree of them to each. By these means a cloud of obscurity is thrown over the subject that is not easily dispelled.

It cannot be denied but that there are many complaints in which a number of causes concur to produce the decisive change, from a state of health to that of disease: but in this multiplicity, it is surely the physician's business to point out such causes as generally take the lead, and have the greatest share in the production of the disease; while he distinguishes them from others of less note, that appear but seldom, and should be

be considered as fortuitous occurrences, rather than the constant and invariable antecedent causes of the disease.

Great stress has been laid on that state of the body that renders it susceptible of disease. That in every disorder there is a predisposition in the habit necessary for assisting the adventitious and exciting cause to produce its morbid effects, nobody will be so absurd as to deny: but if a writer, in exclusion to the truly conspicuous and efficient cause, exalt this predisposition into a whole instead of making it a constituent part only, such a theory must rest on a very bad foundation. The doctrines of plethora, debility, irritability, &c. the usual resources of physicians in endeavouring to account for other spasmodic diseases, have been plausibly enough transferred by analogy to the asthma.

On some occasions, there are very strong reasons for supposing that one or other of these deviations from a perfect state of health may so far operate, as to subject a person more readily to attacks of asthma than otherwise would have been the case. But if we take a view of those who for the most part become its victims, we shall in general find no one particular temperament or habit of body more liable to it than another.

In this country, the lower order of people who are daily exposed to the various vicissitudes of the weather, who are constantly employed in bodily labour, and possess in consequence thereof a rigidity of fibre and robust constitutions, are very frequently afflicted with asthma—much more so indeed than persons in the higher walks of life, whose frames, enervated by indolence, luxury,

luxury, and a redundancy of humours, become irritable in a high degree, and are prone to various other spasmodic affections. Besides this description of asthmatics, there is a class of artifans that appear to be the greatest sufferers by this disease, such as brewers, bakers, soap-boilers, blacksmiths, and many others *. If these be facts whose authenticity cannot be called in question, any predisposition from plethora, irritability, &c. either in the body at large or in the lungs in particular, does not seem to contribute so essentially to the production of this disease as is generally imagined.

The symptoms of flatulence, indigestion, hypochondriasis, &c. that so constantly accompany the asthma, have in all probability very much misled practitioners. Instead of considering them the natural consequence of

* Vide Withers on the Asthma, p. 38.

the disease, as they ought to do, they bring them forward as an argument in support of a contrary opinion. They suppose that such symptoms always indicate a weak, lax, and irritable fibre; and that any disorder, as the asthma, arising in such a habit, and attended with complaints of this nature, must be the offspring of nervous debility. Hence the idea of nervous and hysterical asthma first took its rise. This, however, is a very false mode of reasoning.

Take, for example, a person of the most vigorous constitution, whose stomach, previous to the asthma, would subdue the most viscid and indigestible species of aliment; behold him after several attacks of his disorder, and you will often find his appetite materially injured, the tone of his stomach impaired, while flatulence, distension of this organ, and various other nervous symptoms,

toms, as they are called, will constantly follow *. This is in fact so often the case with asthmatics, that very few exceptions occur to the contrary.

To discover the source of the errors on this subject, we must go back as far as the

* Dr. Percival remarks, that physicians and physiologists have paid great attention to the influence that the stomach when diseased has on the lungs, but that they have taken little notice of the converse of this. He gives a case of humoural asthma, in which the patient could take several drams of vin. ipccac. at the commencement of the disease; but as his disorder increased, the irritability of his stomach became so great, that 15 drops of the same wine often acted as an emetic.

Percival's Essays, vol. ii. p. 394.

Dr. Percival is certainly just in his remarks on the negligence of physicians with respect to this subject, yet it would be an endless task to enumerate all those cases of asthma, in which the stomach is deranged in consequence of the disordered state of the lungs: for in fact very few asthmatics can be found (let the previous state of their stomachs be what it may) who will not in length of time suffer materially from flatulence, distension, and other symptoms of a debilitated state of this organ.

time

time of Dr. Willis. Before he published his Treatise on the Asthma, though medical writers described its symptoms with tolerable accuracy, they never considered it a spasmodic disease, or that it could be brought on by powers applied to the nervous system, or moving fibres.

This celebrated physician perceiving, after the disorder had once taken root in the constitution, that it was easily renewed by causes whose operation could not be explained on any other principle than this, extended the idea farther, and was of opinion, that all those various causes, such as heat, passions of the mind, &c. that are capable of bringing on a relapse, are equally effectual in giving rise to the first attack in persons predisposed to the asthma *.

This

* *Quicquid igitur sanguinem effervescit inque organismum concitat, uti motus violentus corporis aut animi, frigoris*

This doctrine, in its fullest extent, has been received into almost every work published on the asthma from that period down to the present time, and has been adopted with the most implicit confidence by every practitioner: any attempt of course to overturn a system supported by such authority, may be considered as no small degree of presumption, and will probably meet with a very ungracious reception. Facts in themselves absolutely incontrovertible have been adduced by a variety of writers on this subject; but the conclusions that have been drawn from them, are in my opinion neither just nor philosophical.

Thus it is universally known, that after two, three, or more fits of asthma, the lungs

frigoris aut caloris externi excessus, vini potus, venus, quinimo interdum merus lecti calor, prædispositis insultus asthmaticos accersit.

Willis Oper. Omnia, à Blasio, p. 208.
become

become so extremely irritable, and so readily disposed to fall into their former spasmodic state, that various kinds of stimuli, and many of them of an apparently mild and inoffensive nature, will be productive of asthmatic paroxysms. But does it necessarily follow, that, previous to any appearance of fits, or any habit being formed in the system, they are capable of producing such violent effects in constitutions the most healthy and vigorous ? I suppose it does not ; and however natural the transition and analogy may appear, it would be as erroneous to argue from the one case to the other, as it would in the instance of an intermittent fever, to exalt to the rank of primary causes every irregularity or stimulus that is found to bring on a relapse, after a stop has been put to the disease.

In illustration of this, it will suffice for the

the present to observe, that physicians, on finding what bad effects the change from a heavy to a light atmosphere sometimes produces on asthmatics, have fallen into the error of placing a diminution in the weight of the air among the primary causes of the disease, though no one well authenticated instance of such a fact can be adduced, as will be satisfactorily proved hereafter. Objections equally valid can be brought against many of the other causes that have been assigned by medical writers.

Hence we should be very cautious how we take for granted the many cases of asthma recorded by medical authors, that are said to originate in such causes, as they will be found for the most part the offspring of an ill-founded though plausible theory, and not the result of a minute enquiry or accurate observation. Moreover it is worthy of

of notice, that the authenticity of several cases of this kind rests very frequently on the degree of credit that is due to the patient's narrative; and if men of science and erudition be so liable to error on this head, we cannot be surprised at the mistakes or misrepresentations of patients in general: for it must especially depend upon the proper and judicious interrogations of the physician, and his capacity for distinguishing the probable from the improbable causes, how far he may be able to arrive at any degree of certainty.

From what has been now advanced, I would not wish to have it understood that I meant to exclude altogether the causes in question. I can readily conceive how an acquired degree of irritability or sensibility, in certain habits, may so far predominate in the lungs, as to expose such persons to fits of asthma

from

from trivial causes, as passions of the mind, a light atmosphere, &c. &c.: but still I am convinced that this is not a common occurrence. The history of a patient will be related in the course of this work, who, after repeated nervous and hypochondriacal attacks, at length got a nervous asthma, that returned at regular and stated periods. A person in the habit of reasoning according to the principles of the present fashionable system, woud not hesitate a moment to pronounce the asthma, in this case, to be the effects of the preceding nervous complaints, without the assistance of any adventitious power; or that some very trifling one had stirred up the disorder, already in a latent state in the constitution. However, there is very little doubt but that the application of cold was the sole cause of the first attack in this patient. He was very constantly

exposed to the night air in the most inclement season of the year, previous to the appearance of the asthma; and even after this was in a great measure subdued, exposure to cold was the only cause that seemed to have any effect in occasioning a relapse.

In some cases we can with tolerable certainty mark one particular state of the lungs that seems to establish a strong predisposition to the disease. This is a mal-conformation of the chest, apparently at times connected with an hereditary taint, but more frequently independent of it. In this situation the lungs being confined in too narrow a space for their bulk, are easily stimulated to irregular spasmodic action, by various kinds of irritation. I will relate a case in point. A person of my acquaintance, from a narrow and contracted chest, is subject to transitory fits of difficult breathing: fatigue, particularly

ticularly from walking too fast, the sulphur and smoke of coals, and any passion capable of agitating the frame, is frequently followed by a paroxysm, which disappears in a few minutes, and leaves him in a perfect state of health. But it is a doubtful point whether, in the strict propriety of medical language, this disorder can be denominated asthma, as it is not preceded by the signs peculiar to this disease, nor, in its duration or phenomena, has it the characteristic marks of a genuine confirmed asthma. At most it is but a very slight species of the asthma, though, from the very irritable state of the lungs, it is evident that the predisposition is as strongly marked as in any case whatsoever. From this fact (if a solitary one can have any weight) it may be inferred, that the exciting causes of asthma must be of a more powerful nature than is

commonly supposed to produce a formidable disease, let the tendency in the habit be ever so predominant.

Though it would look like scepticism to deny that the seeds of the asthma are sometimes transmitted from parents to their offspring, yet too much pains have been taken by writers to persuade the world that this is most commonly the case. This opinion, as far as I am able to judge, was founded on the inefficacy of the remedies that were generally employed, rather than on the more faithful and unerring testimony of observation. Physicians supposed, as the disorder seldom or never yielded to the power of medicine, that some hidden and unconquerable cause had fixed its roots deep in the constitution; and as an apology for the healing art, and to save themselves the pains of farther investigation, they have thought

thought proper to charge this to the account of an hereditary taint. Happily however the case is otherwise. It would be nugatory to dwell on the many arguments that might be advanced to overturn this pernicious doctrine. Let it suffice for the present to say, that the causes of the disease are often so manifest, as not to elude the notice of the most careless and inattentive observer; that on the most minute enquiry it cannot be traced to any defect on the side of parents or their ancestors; and that it can be very frequently subdued, if proper remedies be administered in due time, and with judgment.

From the foregoing strictures, it is pretty clear, I suppose, that too much hurry and inattention have been shewn by physicians in their investigations of the causes of asthma. Taking into the account such cases as

arise from an hereditary taint, from mal-conformation, and from different accidental causes, as in smelting of lead, &c. I will still venture to say, that in 99 cases of 100, the application of cold to the lungs is, in this climate, the chief and principal cause of laying the foundation of this disease, of bringing on the attacks, and of continuing it after it has once taken place.

C H A P. III.

IN a climate like this, where cold and moisture so constantly unite, it is natural to suppose, that many of the disorders incident to it, particularly those of the lungs, are in a great measure owing to the influence of such a combination. The asthma may with propriety be set down as one of the number. At least the effects of cold are often observable, if the disorder be carefully attended to at its commencement. For some days before the asthma is completely formed, the patient frequently complains of an uneasiness of breathing, cough, pains in his head, and other parts of the body. Sometimes a strong tendency to inflamma-

tion takes place; and in consequence thereof a pain or stitch in either side is frequently felt, together with a sensation of cold in different parts, analogous to what occurs in catarrhal affections. If, together with these symptoms, a stricture be felt at the sternum, an asthmatic paroxysm may be expected to supervene very shortly, unless prevented by timely applications. The appropriate remedies for such threatenings of asthma are bleeding and blistering, which have often, to my knowledge, warded off the impending attack.

It is necessary to remark in this place, that these precursory symptoms do not take place in the exact order, degree, or number in which they are set down: they will frequently vary according to the difference in the intensity of the cause, the previous state of the patient, and many other circumstances.

stances. However, in fact they are the common and usual effects of the action of cold on the lungs, and differ in no material point from the ordinary symptoms of a catarrhal affection but in this, that in proportion to the degree of inflammatory tendency, and state of the pulse, the breathing is more oppressed than is usually the case in catarrh.

On these occasions an acute observer can often foresee the storm gathering, and guard against it with success: but this is not always in his power, as in many instances no alarm is given, and the disorder comes on in the most sudden and unexpected manner, without any of those symptoms that so constantly attend the operation of cold. Lying-in women, and persons after recovery from fevers and other disorders, by unguardedly exposing the body to cold in a state of perspiration,

spiration, are, according to my observations, very liable to attacks in this way. In other habits the constitution is able to resist the action of cold, though frequently renewed, for months, and sometimes for years, till, by the frequent repetition of the same cause, the lungs become materially injured in their functions, they lose their elasticity and tone, and at length give way to its impulsive. An asthma brought on in this manner is generally of a very obstinate nature.

Those who consider the asthma to be principally a nervous affection, and to arise from causes that operate on this system without the concurrence of cold, do still admit that the humoural asthma, as it is called, proceeds in a great measure from the operation of cold on the lungs. This opinion is formed in consequence of its being constantly accompanied with cough, spitting, and

and other signs of a catarrhal complaint. Let us see how far this test may be relied upon. A physician must be possessed of very little discernment, who has not noticed at different times a considerable discharge of phlegm from the lungs, in every species and variety of asthma; in the hysterical and convulsive, as well as in the humoral and plethoric. Nay, what appears still to be more worthy of remark is, that practitioners will often find the nervous and convulsive kind, with its stated and periodical attacks, attended by a copious expectoration of phlegm; while other species of a doubtful and irregular nature, in which a person could distinctly trace the application of cold, discovered no such symptom. How then can it be alleged with any confidence, that the existence of such an affection as this should constitute any specific

specific difference, and be established as a criterion for ascertaining the cause of the disease?

In general, it is not from any difference in the cause, but from a difference in the disposition of the bronchial glands to pour out the mucous fluid, that one asthmatic coughs up large quantities of phlegm, while another has little or no tendency to it. Thus some people with slight catarrhs are accustomed to spit very freely; while others in the same situation, and in every degree of the disorder, from a slight cold to a confirmed inflammation of the lungs, bring up little or no phlegm by coughing.

Sir John Floyer himself (though he asserts that they originally proceed from different causes) owns, nevertheless, that as to their symptoms and phenomena they are exactly alike; and after some time the fits in both

both species are brought on by the same means*.

The justly celebrated Morgagni has remarked, that many practitioners under the

* Whatsoever causes produce the fit of the hysterical asthma produce the same in the spitting asthma, as changes of weather, heat and cold, violent motions, passions, wine, surfeits: in neither kind of asthma can they bear the heat of the bed. Since the same causes produce the fits in both sorts of asthmatics, there is certainly the same effervescence in both which occasions the fits, and that is plainly proved: for at the end of the hysterical asthma fit, the water appears feverish, with a thick sediment: and I observe that there is the same interval between the hysteric asthma fits, as there is in the spitting asthma: and there is the same quantity of pale water in both kinds of asthma.

Since therefore these two kinds agree in the same sort of construction of the bronchia, in the same effervescence of humours occasioned by external causes; all these two kinds differ in is the first occasion that produces them, and the spitting attends the one and not the other; the reason of which I impute to inflammation of the lungs or a catarrh, and the other arises after hysterical fits or a fever.

Floyer's Treatise on the Asthma, p. 114, 115.
influence

influence of Willis's doctrine of asthma, have been so much deceived by false appearances, as to treat disorders of the lungs that evidently arose from obstructions, for nervous and convulsive asthmas. Such a caution coming from a man of Morgagni's distinguished abilities should have its due weight with physicians, and deter them from relying with so much confidence on a doctrine, that in several instances has been attended with consequences of a very serious and alarming nature *.

Hence,

* Postea vero quam Willisius persecutus est fusius convulorum nervorum effectus in dissitis quibusque partibus: medicorum plerique non modo cum oportuit, hanc illius sequi doctrinam cœperunt: sed haud raro etiam hujus facilitate et commoditate illecti, interdum quoque fallaci rerum specie decepti, abusi sunt usque adeo, ut cum organorum vitia non deessent, nihil nisi convulsiones in multis morbis, præsertim vero ad respirationem attinentibus, accusaverint non secus ac veterum plerique

Hence, in every recent attack of convulsive asthma, if we cannot trace it to the effects of cold on the lungs, or to some defect in the formation of the chest, an organic obstruction in some of the internal parts may be strongly suspected: at least physicians are not justifiable in laying down any plan of cure, until every circumstance with respect to this point be examined with the utmost deliberation.

Physicians can easily conceive how spasmodic complaints of the stomach and bowels may be excited by cold: but if a similar affection of the lungs be in question, instead of ascribing it to so obvious and natural a cause (as might be expected from its very constant and decisive influence on these or-

plerique accusabant vapores. *Qui abusus nisi caveamus quam facilis sit non una in proximis epistolis docebit historia.*

Morgagni de Caus. et Sed. Morb. p. 131, t. 1.

gans),

gans), passions of the mind, a change in the specific gravity of the atmosphere, &c. are had recourse to, in order to exhibit a rationale more consonant to a nervous and convulsive disease. In all those persons, as the common people and tradesmen of this country already spoken of, and who were found to be the greatest sufferers by this disease, the trivial causes commonly assigned cannot, by the most zealous advocates for the nervous doctrine, be considered of sufficient magnitude to produce effects of so formidable a nature as we are witness to every day: and unless a predilection for scepticism, and a desire of explaining all spasmodic disorders by means of the nervous system, should bias the judgment, a satisfactory explanation of such cases of asthma will be often discovered in the operation of cold on the lungs.

If,

If, after all this, it should still be doubted whether the cold of our climate be capable of producing the flatulent, hysterick, or any other species of nervous asthma, a few well authenticated facts, drawn from writings of no inconsiderable authority in medicine, will clear up this point.

Narcissus, vir xxxviii annorum, temperamenti cholericо-sanguinei, tribus circiter abhinc mensibus Francofurtum ad Viadrum profectus sub itinere, febre multo vomitu stipata corripitur: a quā datis a quodam medico potiunculis diaphoreticis et temperantibus liberatus, sub discessu de crebris in latere dextro puncturis conqueri cœpit. Redux et per sex circiter dies domi commoratus, Stetinum quinque milliaribus a loco in quo degebatur distans nave aperta proficiunt decrevit. Conscendit quoque illam hora vespertina sexta, levi indutus amictu, et non solum suborta mox tempestate pluviosa,

verum etiam aëre ac cœlo per totam noctem inclementi atque horrido, refrixit. Accedens Stetinum, et biduo ibidem sub illibata sanitate commoratus, tum de insigni præcordiorum anxietate et omnium artuum lassitudine conqueri cœpit. Hinc protinus domum reversus, mox corripitur previo horrore brevi, æstu insigni cum ingenti anhelatione, ac si suffocari vellet aliisque symptomatibus stipata: quæ in sequenti nocte magis invalescebant cum puncturis sinistri lateris. Quare vena in dextro pede statim incisa, mox evanuerunt dictæ puncturæ: sed cum reliqua symptomata non solum insisterent, verum etiam dysuria ac flatulentia accederent, medicum absentem accersicurat æger, qui congruis medicaminibus novissimas binas adfectiones profligavit quidem, at constrictiōnem asthmaticam debellare haud potuit.

Freder. Hoffman. Consult. et Resp. M. t. i p. 404.

Casus lxxxix. De Asthmate Spasm. Flatulento.

On

On reading the foregoing history, it is evident (laying aside every sort of theory) that this flatulent spasmodic kind of asthma, as Dr. Hoffman calls it, was brought on by cold.

Narcissus, in a few days after recovering from a fever; undertakes a journey very lightly clad, in an open vessel, and on a wet, cold, and stormy night: in two days after, he is attacked with cold shiverings, succeeded by heat and violent suffocations threatening immediate death. When such symptoms are accompanied with stitches in the side, and on such an occasion as this, it would be absurd to ascribe them to any other cause but cold.

Bleeding had the effect of instantly banishing the stitches, and the other means that were used so far succeeded as to remove the symptoms of dysuria and flatulence: but the spasmodic stricture at the chest still

remained unsubdued, and never quitted him till it brought on other disorders that in all probability terminated in his death.

In this case, the continuance of the stricture at the breast, after the violence of the disorder was subdued by bleeding and other remedies, is a proof that the spasmodic affection is often of a permanent nature in the asthma, and makes it assume a continued type.

Quum aliquot abhinc annis in Carolinis degerem fontibus ; accessit illos vir quidam generofus, qui in intemperantia potūs et frigori intenso sub quo pectus ipsi libere exponendo iter fecerat, ab aëris inclemetia, asthmaticum fibimet contraxerat morbum.

The following reflections of Dr. Hoffman on this case merit particular attention :

*Quemadmodum frigus omnibus nervosis partibus infensum est : ita maxime pectori
deprehendit.*

deprehenditur inimicissimum. Quamplures mihi cogniti sunt casus ubi ex eo solo liberalius admisso tusses, asthmata spasmodica, et cardialgiæ atrocissimæ propullulârunt. Hinc non rarum est eos qui venatoriis aut aulicis muneribus præsunt, et pectori uti mos est minus tecto incedunt, ejusmodi affectibus infestari. Etsi nostrum conferamus casum, non sane ex alia causa originem traxit asthma quam ex frigore pectori admisso: siquidem æger venationibus indefessus vacavit, nudoque pectore sub gelidissimo cœlo incessit. Quod cum forsan inconvenienti tractatum sit medela: omnino in hydropem pectoris tandem degeneraverat.

Hoffman. Medic. Rat. Syst. t. ii. p. iii. p. 353-4.

Besides these testimonies from Dr. Hoffman in favour of the operation of cold in producing asthma, he has another passage which is still if possible more expressive. After enumerating the different causes that

lay the foundation of this disease, he concludes his subject in the following manner :

Si quid ex causis occasionalibus est quod asthma convulsivum inducere potest, certe est externum frigus, hostis ille nervoso generi inimicissimus. Unde hyemali tempore flantibusque ventis aquilonaribus ingravescit malum : et a frigido quoque potu exacerbatur. Imprimis observavi illos qui pectus non bene tegunt, illudque frigori maxime nocturno exponunt, saepius hoc malum incurrisse.

Dr. Willis himself, who made so material a change in the pathology of asthma, and considered it in every respect a nervous disease, gives us, notwithstanding, a case of convulsive asthma that evidently arose from cold.

Senex perhonorificus multis magnisque titulis insignitus, iisdemque omnibus major,
postquam

postquam per aliquot annos unaquaque hyeme tussi cum sputo moderato et satis benigno obnoxius degisset, sub finem novissimi autumni, a longo itinere domum reversus (a frigore uti putabatur suscepito) minus recte valebat. Querebatur enim de dolore in medio pectori juxta sternum excitato, qui vesperi quamprimum lecto incalesceret, ingravescens somnum perturbabat, et plurima nocte valde molestus erat, sine quavis tamen dyspnœa, aut asthmatis signo evidenti.

Ad dolorem hunc tollendum, et purgatio et phlebotomia celebratur, pectoralia et antiscorbutica quotidie exhibentur, loco dolenti linimenta et fatus applicantur, sine magno tamen fructu aut levamine: nam quæ dein- ceps alteratio contigit, potius in deterius cessit: nam dolori paulo remissius habenti, respiratio difficilis et impedita supervenit, ita ut a primo somno aut appulsu ejus statim asthmaticus fieret, atque anhelus, et circa

præcordia laborans in lecto erexit sedere cogeretur.

Porro hujusmodi dyspnœa et spirabilium agitatio convulsiva, non modo quovis vesperi redibant, sed indies immaniores factæ longius durabant: proinde ut nocte quadam a primo somno evigilans asthmatis paroxysmo gravissimo, qui ipsum tantum non intermit per plures horas afficeretur.

Willis, *Opera Omnia à Blasio*, p. 213.

De Medicam. Operatione.

On reading the preceding cases and observations, no person, I suppose, will be so hardy as to deny the possibility of every form of asthma from the operation of cold, independently of any other cause: and if a multiplicity of them were in any respect necessary for giving additional plausibility and weight to this opinion, the records of physic would readily supply us with them.

From this source also, even at its origin,

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it is possible we may be able to draw a farther corroboration of our doctrine of asthma: for it will be found, that the theory under consideration was embraced in the earliest annals of medicine, when the human mind, possessing its native independence, had no particular bias for any system, but recorded with fidelity whatever nature presented to its view.

If we look into the works of the venerable Father of physic, we shall find no particular section or chapter allotted to this disease. In the course of his writings, however, he takes frequent opportunities of mentioning the asthma, and that in such a manner as to leave very little doubt on the minds of his readers, that it often engaged his attention, and that he was intimately acquainted with its nature.

These detached and scattered passages have called forth the exertions of different authors,

authors, particularly those of Galen, who has given us a very elaborate commentary on aphor. 26, lib. 3; aphor. 46, lib. 6, and other parts.

But his intended illustrations on those seemingly obscure and mutilated passages, instead of affording us any assistance in elucidating them, and giving us a clue to the sentiments of Hippocrates, rather, in my opinion, pervert the intention and meaning of this illustrious writer.

Not to dwell particularly on those parts in which he has mistaken the sense of the original, it is sufficient to observe, in general terms, that in no one of his remarks has he done justice to it: his description of the asthma does not differ in any material point from dyspnœa, or any species of difficult breathing, and of course it cannot convey to us an adequate idea of a spasmodic affection of the lungs.

These

These annotations of Galen being then inadmissible, it will be necessary to discover if any other hints thrown out by Hippocrates on this disease, will admit of a different explanation.

Hippocrates, enumerating the various complaints that occur at different stages of life, sets down the following as disorders to which the human frame is particularly liable, after the period in which spitting of blood and consumptions of the lungs are most frequent.

Τοῖσι δε υπερ την ἡλικιν ταύτην σθιματα πλευριτίδες περιπνευμονιαι. Aphor. 30, lib. 3, sect. 7.

It appears extremely probable that Hippocrates, in placing the asthma here in contradistinction to pleurisy and peripneumony, must have had in view the spasmodic kind. We shall the more readily adopt this opinion, if we attend to the succeeding aphorism, where he says, that old men are very

subject to difficult breathing, coughs, and catarrhs or defluxions on the lungs.

Τοισι δε πρεσβυτησι, δυσπνοιαι, καταρροι, Εγκωδεες.

Aphor. 31, *ibid.*

Here we are to suppose that Hippocrates, in taking notice of the greater part of the disorders of the lungs, and in giving an appropriate term to each, had a clear and distinct idea of their nature and symptoms; and if this be the case, he could not possibly distinguish the asthma from the rest of the pulmonary disorders, in any other manner than by marking with accuracy those symptoms that are peculiar to it as a spasmodic disease. That he formed such an opinion of the nature of asthma, will appear pretty clearly from a passage quoted by Dr. Millar, in his excellent Treatise on the Asthma of Infants.

Τοισι δε παιδιοισιν, επιπιπτειν σπασμοις και ασθματα ἀσμιζεσιν το παιδιον ποιεειν και ιερην νουσον ειναι.

Hipp. Oper. Omn. à Fæsio, p. 281.

Hippocrates,

Hippocrates, speaking of the effects of cold and moisture on the human body, and of the disorders which such a state of the atmosphere produces, makes use of the foregoing observations.

Whether we suppose, with Galen, that Hippocrates hinted at the epilepsy by the epithet *εἰρηνή*, or, if we content ourselves with an explanation that will readily occur to every intelligent reader of this passage, that the appearance of the disorder was altogether so formidable as to induce the vulgar and uninformed spectators to believe that it was sent by the gods for some particular purpose; in either sense we are warranted to conclude, that the disorders alluded to by Hippocrates, under the title of asthmata, were of a spasmodic nature. For if by this term he meant an affection of the lungs, of which there cannot be the smallest doubt, no disorder of these organs except a spasmod-

dic and convulsive asthma exhibits such terrifying symptoms as to form any grounds for a parallel with the epilepsy, or for believing that it was the effect of an immediate interposition of a supernatural power. Hence, without putting any forced construction on the words of Hippocrates, it appears that the asthma mentioned by him was of the spasmodic kind, and that he considered cold and moisture its principal causes. At least it must be allowed that this was his opinion with regard to the disorder in children.

We shall next direct our attention to another writer of antiquity, and see how far his sentiments coincide with those of the Father of physic.

Celius Aurelianus, in giving a history of the asthma, writes like one who delivers a true and faithful account of whatever was presented to his view in actual practice: no

weak

weak or futile theory is substituted for facts and accurate observation.

Gravat autem (says he) asthma atque premit magis mulieribus viros, et juvenibus senes, atque pueros et durioribus natura corporibus teneriora, hyberno atque nocte magis quam die vel æstate: in quibusdam perfectis irruit passionibus: sed magis ex profundo frigore sequitur patientes spirationis difficultas, et frequenter natura celerior magis quam tarda.

Every physician conversant with the asthma, must acknowledge that we have here, as far as it goes, a just and accurate account of its history. What in my opinion stamps it with no inconsiderable degree of merit, is the cause that is assigned for the production of the disease: sed magis ex profundo frigore is the express opinion of this ancient writer; and there is so much truth in the remark, and it is founded on so solid

and

and firm a basis, that it deserves to be revived in modern times, and raised into a system.

Indeed, if the greater part of the earlier writers be consulted on the asthma, though the same abilities in ascertaining its cause cannot be discovered in their works, as in those of Celsus Aurelianus or Hippocrates; yet the prevailing doctrines among them seemed to be the result of a careful observation of the symptoms that constantly took place, and led to a practice not only rational but successful.

Thus, from the difficult breathing, cough, spitting, and other symptoms of asthma, it appeared to them that there was a flow of humours to the lungs, which they called a defluxion, absurdly imagining that they descended from the head to the chest, being previously drawn up by this organ from the lungs.

This

This explanation, however vague and ridiculous it may appear, was productive of no evil consequence. The fact being established with respect to the determination of morbid humours to the lungs, or to a redundancy of such as were found, happily directed a practice of the most salutary tendency: vomiting, purging, and other evacuant remedies came to be employed in the incipient state of the disease, and were constantly crowned with success.

Even at an after period, and when the disorder ran into a chronic state, their instructions for asthmatics have not been followed in vain by practitioners of experience in modern times. Thus Sir John Floyer* has

* I found I had read most of the modern writers, and hitherto had tried their methods, and hot pectorals and cephalics in vain. I believed by my ill success in their way that they never understood this disease; and therefore turned over some of the old writers, Galen, Ægineta, Ætius, &c. where I found more rational no-

has borne public testimony to the superior efficacy of their practice, and affirms that he obtained more lasting benefit from their prescriptions, than from any of those that were published by the modern physicians of his time.

Having laid before my readers this account of the doctrines of the ancients with respect to the asthma, I shall take the liberty of making a few remarks on some passages in Dr. Millar's treatise on the same subject, already mentioned, as they appear to be a strong corroborating evidence in support of the theory under consideration, though brought forward by this ingenious writer for a very different purpose.

He sets out with a description of the soil, extent and situation of the different countries, and was directed by them to the use of that medicine which does very much relieve and prevent my fits, of which I will hereafter give an account.

Treatise on the Asthma, p. 15.
tries

tries wherein the asthma was found to be most prevalent, recounts the diseases that rage at particular seasons, gives a minute account of the state of the weather which he thinks produced them, and concludes his observations in the following summary manner :

“ Such was the state of the weather,
“ which at this time introduced the asthma,
“ and such were the concomitant diseases:
“ and as there was little variation in suc-
“ ceeding years, it is sufficient to observe in
“ general, that from a meteorological re-
“ gister, very accurately kept by an ingeni-
“ ous clergyman, for almost fourteen years,
“ compared with a journal of diseases during
“ that period, it appears that the asthma
“ was more or less frequent according to the
“ state of the weather; that it prevailed most
“ in spring and autumn, and especially in
“ moist seasons accompanied with east and

“ north-easterly winds; when the weather
 “ was variable; when the mercury in the
 “ barometer was fluctuating, but generally
 “ low; and when sudden changes from
 “ frost to thaw were very frequent.”

Millar’s Observations on the Asthma and
 Hooping-Cough, p. 13.

A person divested of every sort of pre-
 possession in favour of any particular theory,
 on perusing the preceding observations re-
 lative to the asthma, could not, in my opi-
 nion, hesitate a moment in forming a de-
 cision as to its cause. But let us see the su-
 perstructure that Dr. Millar has raised on
 this foundation.

“ From the history which has already
 “ been given of the asthma, it appears that
 “ it is chiefly incident to children, especially
 “ such as have been lately weaned; and that
 “ it has been most prevalent in spring and
 “ autumn, moist seasons, changeable wea-
 “ ther,

“ ther, and when the mercury stood low in
“ the barometer.

“ However unsatisfactory the conjectures
“ may be which have been formed con-
“ cerning the influence of a light atmo-
“ sphere in producing diseases, yet the
“ fact stands confirmed by the concurring
“ testimony of physicians in all countries,
“ and in all ages. An extraordinary
“ instance of the lungs being affected by
“ such a constitution of the air, is related
“ by Dr. Mead in his Treatise concerning
“ the Influence of the Sun and Moon upon
“ the Human Body. And if we have not
“ been grossly deceived by the relations of
“ travellers, the sudden change from a
“ dense to a light atmosphere, in ascending
“ high mountains, renders respiration very
“ difficult.”—Ibid. p. 67.

“ When moisture is joined to such a state
“ of the air, it becomes still more injurious ;

“ the superfluous serum, which ought to be
 “ thrown out by expiration, is accumu-
 “ lated ; the fibres become turgid and œde-
 “ matous ; and the organs of respiration
 “ are weakened.”—Ibid. p. 69.

Those who labour under no defect of the lungs, for the most part bear with impunity very considerable changes in the specific gravity of the atmosphere : even many persons have resided for several weeks on very high mountains, without finding their respiration affected, as was the case with Messrs. Bouger and La Condamine, on Pinchinæa* in America. Others affirm that they experienced no difficulty of breathing on the Pike of Teneriffe.

The disorders that are generally said to attack those who visit such mountains, are hæmorrhages from different parts of the

* Zimmerman's Experience in Physic, vol. ii.
 p. 111. ...
 body,

body, as from the lungs, nostrils, eyes, &c. They are accounted for in this manner:— The impediment that is given to the propulsion of the blood through the vascular system, being in part removed by the diminished pressure on the tops of mountains, the fluids are propelled with greater force by the *vis a tergo*; hence the small vessels becoming more and more distended, a rupture of such of them as are least capable of resistance takes place *. This seems satisfactory enough; though there are some who contend that the cause of such discharges of blood is to be sought for in some accident, and not in any diminution of the weight of the atmosphere.

However philosophers may disagree about this point, they all allow that there is not one well authenticated instance of a con-

* Vide Percival's *Essay*, vol. ii.

firmed asthma in consequence of the change of air from the lowest to the highest situations, by the ascent of mountains, or by the flights to the upper regions, as in the late practice of aerostation. Hence it is but reasonable that we should reject the explanation given by Dr. Millar, as it is scarcely possible that the slight variation of the atmosphere mentioned by him (though assisted by moisture) could produce such violent effects as an asthma, so general at times among children as to amount nearly to an epidemic distemper.

It being found by experience, that many asthmatics, on their removal from a thick and heavy to a light air, were immediately attacked with their disorder*, physicians have

* I have found London air and that of Holland agree best with me ; and by going into a sharp air, I have immediately fallen into a shortness of breath, particularly in my going from London to Epsom ; but upon my

have hence rather precipitately concluded, that such a cause was sufficient of itself to give origin to the asthma. But many different causes (as we already remarked) will affect the asthmatic after the disease has taken root, that would not produce any morbid symptom, had they been applied before the lungs were injured by its frequent attacks: so a light atmosphere, by not giving the ordinary degree of distension to the lungs, may disagree with an asthmatic, or occasion a relapse, though it could not possibly produce any effect on the same person before the asthma appeared.

If we attend to the fact stated by Dr.

my return next day to London, I was very well. I have had severe fits in London; none in Holland, but a little heaviness, which the Jesuits Powder put off immediately. Eating a supper or any thing in an afternoon occasions my fits: but in the beginning of my fits supper agreed well with me.

Floyer's Treatise on the Asthma, p. 21.

Millar,

Millar, that the species of asthma which he treats of prevailed most in wet and moist seasons accompanied with east and north-easterly winds, there surely can be no difficulty in forming a tolerably just idea of its cause, except we wish to substitute sophistry for reasoning, and subtlety for common sense.

Such weather as this is well known to be injurious to the lungs, and is constantly found to be productive of catarrhs, pleurisies, and other disorders of this sort: and Dr. Millar himself remarked, that, in October 1755, inflammations of the bowels, and the iliac passion, were very prevalent at the same time with the asthma *.

This shews to a demonstration, that we are not to refer the cause of this species of asthma to any change produced in the

* Observations on the Asthma, p. 11.

weight of the air: for it would be highly absurd to ascribe inflammation of the bowels, or the iliac passion, to a diminution in the weight of the air; and the argument will hold equally good with respect to the asthma that happened to rage at the same time.

When the causes of asthma underwent an investigation, many facts and observations were adduced, which tended to prove, in a satisfactory manner, that the application of cold to the lungs was by far the most frequent cause of this disorder. If this be the case, does not the most striking analogy authorize us to assert, that the asthma which raged during the prevalence of east and north-easterly winds originated in the same source?

To obviate the force of these arguments, it may perhaps be alleged, that the disorder in question is not an affection of the lungs, and does not differ materially from the

the suffocatio stridula, or croup, of the ingenious Dr. Home. However, in forty instances at least of the croup that I have seen, both in this country and in Scotland, the symptoms had little or no similarity to those of the asthma of infants described by Dr. Millar.

In the former, as soon as the person is attacked, the peculiar sound that is heard on inspiration immediately attracts the attention, and points it out as an affection of the upper part of the windpipe. It never has considerable remissions ; nor, as far as I can learn, does it ever run into a chronic state *.

In the latter, the case is totally different according to Dr. Millar. Remissions are frequently perceptible, and it constantly

* Vide Home on the Croup. Michaelis de Angina Polyposa. Memoires de la Société R. de Medecin pour l'Année 1782-3, p. 82-3.

changes to a chronic disease; nor do dissections exhibit the same appearances after death. If, notwithstanding these arguments, it still be denied that they are different diseases, this at least must be granted, that Dr. Millar's account of the croup differs very widely from those of the most judicious authors on the subject: so much so indeed, that there is a strong foundation for a charge of inaccuracy and inattention against him: but very few will be disposed to find him guilty of it, who properly consider the many just and faithful observations he has left us on this disease. It was principally on account of the great merit of his work, that I thought it necessary to give the foregoing extracts, with remarks upon them, in order to shew how one of the most intelligent writers on the asthma may be misled by a fond attachment to a favourite theory.

I have been thus insensibly drawn on to consider

consider at greater length than I originally intended, the causes that give rise to the asthma. From the professed design of this work, I should have confined myself to a few cursory observations only; but the very interesting nature of the enquiry urged me, when once engaged, to extend my subject, and offer to the public such reflections as an attentive consideration of the symptoms and phænomena of this obstinate malady had suggested.

But after all this, it may be asked, how far this theory (admitting it in general well founded) will improve the practice in asthma? Does it recommend any new method of cure? How, or in what manner, is it superior to the doctrines hitherto advanced by medical writers?

If the application of cold to the lungs be in most cases the principal cause of asthma, the impression that such a doctrine must make

make on the minds of practitioners will be attended with one very important advantage. It will banish from their thoughts the idea of its being an hereditary and incurable disorder, and lead them to consider that it is in most cases accidental, and that of course it will admit of a cure in many instances by proper remedies.

Thus, from the effects that cold usually produces on the human body, evacuations of one kind or other become in most cases necessary, in the first onset of the asthma ; and as the disorder is afterwards continued by the power of habit, such means as are found useful in interrupting this, and preventing it from becoming a fixed and permanent affection, should chiefly occupy the attention of the physician. If no other purpose was answered by this view of the asthma, than the consideration of its being brought on accidentally by exposure to cold,

in constitutions apparently the most healthy and vigorous, it may be productive of some advantage.

Except those who have some particular remedy or method of cure to recommend, and who (it may naturally be expected) dwell with peculiar pleasure in praise of their own offspring, which they have fostered and brought to maturity with much assiduity and care, very few besides think a radical cure of a confirmed asthma within the reach of the healing art. Such sentiments as these, when promulgated by physicians of weight and authority in medicine (as is daily the case), must be attended with the worst of consequences; they encourage the old and experienced to content himself with treading in the paths of his predecessors, and deter the young and timid practitioner from venturing to explore any new or untravelled road.

C H A P. IV.

OF THE PROGNOSTICS IN ASTHMA.

WHEN spasmodic diseases, by frequent repetition, have once taken deep root in the constitution, physicians at all times have given a very unfavourable prognosis of them. On the asthma their prognostics have been no less gloomy and inauspicious.

The lungs of the human body, when labouring under spasmodic asthma, are so liable to be affected by a variety of causes capable of renewing the disease, that it is not to be wondered at, if physicians

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should be very cautious in pronouncing a favourable termination in any case.

The opinions entertained of the causes of the disease have probably, in a great measure, influenced their decisions. If the asthma be a disorder which is in general transmitted from parents to their offspring by an hereditary taint, or if it originate in an idiosyncrasy, as it is called, or a peculiar state of the fibres stamped on the frame by the hand of Nature; then a physician is justifiable in proclaiming the disorder incurable, and in withholding that consolation from the afflicted, which neither his own character, the nature of the complaint, nor any expectations he can have from the common remedies, will allow him to give. But if, on the other hand, the majority of cases that daily occur in practice be the effects of cold, and cannot be traced to any constitutional infirmity, some

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ray may be emitted from this light to dissipate the mist thrown over the subject, in consequence of the errors committed with respect to the efficient cause of the disease.

That there is in reality no foundation, from its nature, for passing so awful a sentence as is customary with physicians, appears from the many facts and observations brought forward to prove it in the greater number of instances to be an accidental disorder; and until the method of cure be conducted according to these principles, no reliance, in my opinion, can be placed on the prognostics that may be made on the asthma.

If a person, shortly after exposing his body to cold, be attacked with asthma, his disorder will frequently admit of a complete cure, on condition that his lungs have not been previously injured by catarrhal or pleuritic complaints; that no obstructions

exist in the viscera ; and that proper remedies be timely and judiciously employed. Several instances of this sort have occurred to me without any relapse taking place. The more gradual the asthma is in its approaches, the more obstinate it generally turns out. Coming on in this insidious manner, the patient is totally off his guard : he neglects every sort of assistance till a fit comes on, when perhaps the disorder had been undermining the lungs for several weeks before. On such occasions, if the gathering storm be foreseen, it is often in the physician's power to take such steps as may effectually prevent any untoward consequence.

It appears to me, that the obstinacy of the asthma should be often charged to the negligence of practitioners in the early stage of it. A nice and scrupulous attention to this period of the disease, will often guard against

against the formation of obstructions, and the habitual repetition of the fits, which ever after render it so superior to every medical exertion.

It has been remarked by almost every writer on the asthma, that tubercles are most commonly formed some time before its fatal termination, and that they in a great measure contribute to such an event. When water in the chest, tubercles, and other obstructions come on in consequence of the frequent repetition of the fits, it must be owned that very few, if any instances, are to be met with on record, of a person recovering in such a situation.

But if it appear on accurate examination that none of these disorders exist, though the asthma has continued without any diminution in its violence for a great length of time, and has rather increased as to the number of its fits, the patient still should not

be given up as irrecoverable. No remedy that affords the smallest prospect of relief should be left untried: the cause of humanity, the honour of the profession, demand our most strenuous endeavours; and there is not a doubt but that they will often triumph over the disease in the most alarming and unpromising cases.

C H A P. V.

OBSERVATIONS ON THE DIFFERENT REMEDIES
THAT HAVE BEEN EMPLOYED IN THE CURE
OF ASTHMA.

THE remedies that have been generally made use of in this disease are of great variety, such as bleeding, blistering, issues, expectorants, antispasmodic tonics, &c. A minute detail of each would lead to a long and tedious discussion, not by any means calculated for an Essay of this kind. Some observations however appear necessary; and these are offered to the public with the greatest diffidence, from the state of uncertainty in which the practice of asthma is involved.

On the first attack of the asthma, blood-

letting is often looked upon to be a very useful remedy; and it really is so, when the patient's fulness of habit, the strength and quickness of his pulse, with other circumstances, point out the necessity of such an evacuation. But in many instances of the first onset of asthma, blood-letting cannot with any propriety be attempted; for the disorder sometimes attacks feeble and exhausted constitutions, which may be materially injured by any loss of blood whatsoever.

One great advantage, if not the principal one, supposed by physicians to be obtained by bleeding in the asthma, is the temporary suspension of the difficult breathing that generally succeeds its use. If no other purpose was answered by it than this, it would be of very little moment, as a renewal of the paroxysms most commonly succeeds this transitory interval of ease.

In order to form a just idea of the utility of bleeding in asthma, we must look back to the causes that first gave rise to the disease. From this retrospect it will appear, that the application of cold to the lungs is the most frequent exciting cause; and that, in consequence thereof, very strong symptoms of an inflammatory disposition must often accompany the first stage of asthma.

Hence it is that, in many cases, a physician must necessarily prescribe venesection in order to preserve the life of his patient, and not confine his views merely to the removal of a plethoric state, or to the abatement of spasm by the relaxing power of blood-letting. On other occasions too, though no danger to the patient's life should follow the omission of this practice, it will be highly proper to have some blood drawn in order to obviate obstructions, and bring about a state of intermission, so necessary for

for the operation of such remedies as are capable of putting a complete stop to the further progress of the disease.

Blistering, from its well known power of exciting a copious discharge of serous fluid, seems eminently well calculated for removing some of the most distressing symptoms of asthma. However, some practitioners of character have ventured to assert, that in the spasmodic asthma blisters are productive of little or no advantage. This is maintained on a principle that the disorder is seated in the nervous system ; and never was there a more striking instance of the baneful influence of theory unsupported by facts. Cases no doubt will occur, in which blisters will often fail in producing those salutary effects that were expected : but the signal success daily attending their use, proclaim them on many occasions a speedy

speedy and powerful auxiliary in the cure of this disorder.

Whenever the fits are renewed by the power of habit, blisters will seldom avail any thing in overcoming this tendency in the system. It is in the beginning of the disorder, or when a fit is brought on by the application of cold at any period, that benefit is to be obtained by them.

I always make it a rule to apply a blister in the first paroxysm of asthma, be the cause of the disorder what it may; and as no injury can attend it, but very often the best effects may be produced, the propriety of the measure is evident.

Blisters appear to be well adapted to that species of asthma where an accumulation of blood in the lungs is found to contribute in some measure to the fit, and where, of course, a plentiful evacuation near the diseased part would be a probable means of removing

removing it. In every primary asthmatic complaint, whether the patient be of a full habit or otherwise, if, in the beginning of the disease, the intermissions be not complete, or if the breathing be any way uneasy between the fits, blisters are not only admissible, but should on no account whatsoever be omitted.

It should be a principal object with practitioners, as we noticed before, to bring about if possible complete intermissions early in the disorder. Sometimes there will be no need of this indication, as the intermissions are often well marked from the beginning; but in the greater number of cases there is an absolute necessity for it. It is deemed a matter of no consequence to what part of the thorax the blister should be applied; nor is it, I believe, for the removal of the symptoms of difficult breathing or tendency to inflammation. But when

when the asthmatic fit passes off, any difficulty or uneasiness of breathing that remains, is in a great measure supported by the stricture at the sternum. To this part, of course, it is evident that the blister should be applied, and a discharge kept up by issue ointment, or else a repetition of the blister made use of, until the desired effect be produced.

I do not rest the superior utility of this practice on the reasoning advanced in support of it: facts, which always plead so forcibly when well authenticated, can be readily called to my assistance. Thus, in two instances, I had an opportunity of seeing a blister at the extremity of the sternum productive of singular success, both in removing the stricture at this part, and in abating the whole of the symptoms, after little or no benefit was obtained by its application between the shoulders. By pursuing the plan

plan now laid down, we shall have it in our power to remove any symptoms of inflammation that may subsist, and shall seldom want of course a seasonable opportunity of administering the necessary remedies for putting a final stop to the disease.

Dr. Millar has made an observation on the asthma, that, in my opinion, is very well founded. He says, that in the irregular return of its paroxysms, in its remissions, and in the affection of the breathing, it bears a striking analogy to the chin-cough. This disorder, though evidently of a spasmodic nature, often requires bleeding, blistering, and emetics, before we can venture upon a radical cure. During its first stage, it so nearly resembles a common catarrh, that the one may be readily mistaken for the other: nay, instances do very frequently occur, in which the disease never

puts

puts on the characteristic form of a spasmodic disease.

This matter is well illustrated, by attending to a fact that must be well known to practitioners. If a number of children in a family be exposed to the contagion of chin-cough, and in consequence thereof happen to be attacked with symptoms of catarrh, it is often found, that while one or two of them discover no further symptoms of chin-cough, all the rest, in a fortnight or three weeks after the first appearance, will labour under the convulsive cough and hoop. Moreover, after the paroxysms are formed, the intervals between are often marked by cough, difficult breathing, and other symptoms of an inflammatory affection ; so much so as to render it at times a difficult matter to affix a proper appellation to the disease. Hence we must frequently have recourse to bleeding, blistering, and other evacuants,

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in order to remove any inflammatory disposition that may exist, and put the disorder in a proper train for the administration of tonic and other remedies. Motives of a similar nature should often influence our conduct in directing the method of cure in asthma; for though in many instances it early assumes the form of a genuine periodical spasmodic disease, yet, like the chin-cough, it will be constantly found in the beginning of a doubtful nature, and, after the fits have come on, to be accompanied with strong marks of an inflammatory tendency.

While it is in this state of a mixed and complicated disease, little hopes can be entertained of a cure; but if blistering, with other evacuations, so far succeed as to render the breathing free and unembarrassed in the intervals of the fits, and exhibit the asthma stripped of every sort of disguise, then

then, there will be room to hope for a favourable termination.

• *Emetics.*—Very frequently in the asthma the lungs are oppressed with a large collection of phlegm, from which it is found necessary to free the patient by medicines entitled expectorants. Accordingly physicians, to fulfil this intention, have generally prescribed tart. emetic, squills, gum ammoniac, and others of this tribe. From the testimony of different writers, it would be scepticism to deny that these medicines have been of service in the asthma. But, on the other hand, it is to be feared that the constant use of such drugs may prove injurious to asthmatics; for they not only increase the force of the circulation, and thereby overheat the body, but in a remarkable degree impair the functions of the stomach by the constant nausea they

H induce,

induce, if given in quantity sufficient for producing any considerable effects as expectorants.

Hence, when we wish to promote expectoration, an emetic judiciously administered at proper intervals; will certainly prove the most safe, speedy, and effectual remedy.

Even in those cases of asthma where no necessity occurs of employing expectorants, vomiting, it is said, may be resorted to with advantage, for the purpose of preventing the recurrence of the asthmatic fits. This was the practice of Dr. Akenside: and, on his recommendation, I employed it in three or four cases with the same intention that he did, and always found myself disappointed in my expectations.

Besides its efficacy as an expectorant, and its effects in removing any catarrhal affection that may be combined with the asthma,
vomiting

vomiting will be found highly useful in relieving the patient of flatulence, distension of the stomach, and other symptoms of indigestion.

In prescribing for asthmatics, it may with justice be observed, that the more closely we adhere to simplicity, the better chance we stand of assisting them. How is it possible that the feeble and distended stomach of an asthmatic can bear with impunity such a compound as the following: Suppose squills, gum ammoniac, sagapenum, emetic tartar, paregoric elixir, and vitriolic æther, made into a mixture secundum artem, and a delicate asthmatic ordered to take it repeatedly, what ought we naturally to expect to be the result? That whatever vigour the stomach possessed before, will now be destroyed by so many medicines of such various and contradictory operation. It is surely more than rashness to overload a

feeble and enervated stomach with such a nauseating farrago: yet we find practitioners prescribe similar potions in the asthma, and eagerly contend for their efficacy.

If it be considered for a moment with what difficulty their stomachs digest the lightest kind of aliment that can be given to them, we should, I am persuaded, be very cautious in administering such compounds; for though one or two patients may be able to withstand their operation, or should even receive some benefit by them, still an indiscriminate use of such heterogeneous mixtures must prove in many cases very prejudicial.

I would not by any means insinuate that the use of medicines, even a variety of them, is to be excluded from the cure of asthma, as they are sometimes absolutely necessary: but I maintain, that if simplicity

of prescription be commendable in any disorder, it must be so in this, where the stomach at times is so deranged in its functions, as to partake at length in a great measure of the primary spasmodic complaint of the lungs.

Issues have been often employed in the cure of asthma, and I think with much propriety. The idea of a convulsive and spasmodic disease should not deter practitioners from their use, when certain indications point out a probability of success from their application.

There are two varieties of the disease that seem particularly to demand their assistance.

The first and most striking one is, when the disorder occurs in persons of full and plethoric habits. The next is, when the patient, with or without any signs of general fulness, together with the asthma

labours under a catarrhal affection. In either case the utility of a drain is evident, in order to take off the tendency of the fluids from the internal, and give them a direction to the external parts. If, however, the disorder should still gain ground, and the body appear to have suffered any considerable loss by such, it may not be prudent in such cases to keep up a constant discharge, as it might be a means of promoting a process already too far advanced. Issues should be immediately inserted between the scapulæ, or in each arm, whenever any symptoms of consumption of the lungs take place: even before they come on, if any apprehension exists of such an event, no remedy promises to be more useful than issues.

After this account of the evacuations necessary to be employed in the asthma, we are next to consider what medicines we are possessed

possessed of capable of alleviating or suspending the fits.

For this purpose, various remedies have been recommended by different writers, and much contrariety of opinion has prevailed on the subject. According to Dr. Willis, the foetid gums and volatile salts have sometimes produced the happiest effects: while Sir John Floyer *, from long experience in his own person and that of others, reprobates their use; and asserts, that by their heating quality they increase the suffocation during the fit, and aggravate every prevailing symptom. The writers of modern times do not appear more disposed to coincide.

On this subject I cannot venture to give so decisive and satisfactory an opinion as I could wish, not having had experience suf-

* Floyer on the Asthma, p. 112.

ficient to authorize me to do so ; for when medicines of this kind were indicated, I seldom had an opportunity of giving them, and in other cases I had recourse to those of a more unequivocal and powerful operation.

However, from what I have seen, I do not think them entitled to the high encomiums of the one, nor that they deserve the severe and undistinguishing censure of the other.

When in the beginning of asthma the fits recur at very short intervals, after evacuations being premised, and that symptoms are still present which forbid the use of opium (as must sometimes be the case), will a physician look on with indifference, and behold the disorder advance with rapid strides, without taking such steps as may oppose its progress ? No. I dare say that every physician of judgment, in such a situation,

ation, would prescribe musk, æther, and asafœtida itself in large doses, in order to lengthen the intervals of the fits, and give himself an opportunity of throwing in the bark and other tonics with freedom.

In the hands of Dr. Millar, asafœtida, when given in large doses, proved a very powerful remedy in the asthma of infants; and it is highly probable that, on many occasions, with proper management, it may be administered in the asthma of adults with advantage. It was customary with him to join a portion of neutral salt with the asafœtida in a state of solution, for the purpose I suppose of procuring a moist skin, having found by experience that it was often succeeded by a complete remission of all the symptoms.

As cold is so frequently the exciting cause of asthma, we are warranted from analogy to say, that spiritus Mindereri, and other medicines

medicines capable of procuring a gentle moisture at the surface, may with propriety be given in the early stage of the asthma; and that of course the practice of Dr. Millar may be sometimes transferred to grown up persons, and imitated with success*. Of this, however, I have had no experience.

Among the various medicines of this class, opium unquestionably, with certain restrictions, holds the first rank. Ever since its introduction into the cure of asthma, some of the most celebrated writers on the disease have considered it peculiarly well adapted to the removal of the spasmodic fits. Willis, Floyer, and others have

* In one case of the hysterical asthma of Sir John Floyer, I have seen asafoetida produce more good effect than any other medicine of analogous power. When other antispasmodics failed in procuring relief, a large dose of this operated with singular efficacy in abating the spasms of the lungs.

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given it with freedom, and it has frequently answered their most sanguine expectations. Willis in particular seems to have made some just observations on its use; for though he speaks in high terms of its efficacy, yet he qualifies them in such a manner as to guard against its rash or indiscriminate application.

Quod si hoc modo spiritus debacchantes sedari nequeunt (alluding to the other means that he used), ad narcotica (says he) perveniantur, ut quibusdam profligatis cæteri in ordinem redeant: enimvero, nisi obstat pulmonum infarctus, cum insigni præcordiorum oppressione, opiata nonnunquam insigniter profundunt. In horrendis morbi hujus paroxysmis, cum alia medicamina minus efficissent, sæpe bono cum fructu diacodium, imo laudanum tartarifatum, exhibui.

Verum hæc non sine magna cautione propinantur, quia cum respirationem, quæ jam

jam jam difficultis et præpedita est, amplius et nimis impediunt, non raro in vitæ discrimen adducunt.

Willis, Oper. Omn. à Blasio, p. 121,
De Medic. Operatione.

A physician should be very cautious how he administers opiates to a patient in the first paroxysm of asthma: he can seldom be a competent judge of its nature till the fit wears off, and an opportunity offers of examining its appearance during the intermissions. This admonition is the more necessary, as the disorder, in its incipient state, is so frequently accompanied with a flow of humours to the internal parts, and evident symptoms of an inflammatory tendency.

But as soon as these obstacles are removed, no time should be lost in deliberation; a large dose of the medicine is to be given without delay, in order to put a stop to the fits, and thereby counteract that disposition

position in the system to renew any irregular motions that have once taken place.

If any instruction coming from this pen can have weight with practitioners, I would beg leave to direct their attention in the most particular manner to the early stage of asthma; for I can safely aver, from experience, that a bold and liberal administration of opium at this early period (when circumstances render it admissible) will often put the disorder in such a train, that no extraordinary degree of medical talents or skill will be requisite for finishing the cure.

In one case of symptomatic asthma from retrocedent gout, it proved a speedy and effectual remedy; and in three or four instances of a primary disease, the tendency in the habit to repeat the fits was so far subdued, that no difficulty was found in obtaining a complete and lasting cure.

The opium possesses the power of shortening

ening or removing the fits altogether ; yet a good deal of address is necessary for selecting those cases to which it should be confined, and for adjusting the mode and time of giving it. If the disorder has subsisted for any length of time, and that the fits return every night, or at short intervals, in consequence of the ascendancy of habit, opium, according to my observations, will seldom answer our purpose. In some instances I have rather found it prejudicial, by rendering the succeeding fits more violent, and of longer duration than the preceding. It would seem as if the effects of opium in these cases were too transitory to produce any permanent alteration in the state of the fibre, and that the habit was too firmly rooted to give way to an operation so fugacious as this.

Hence there is an absolute necessity, on such occasions, of having recourse to medi-

cine.

medicines whose effects are more durable ; and the time should not be trifled away in giving opium, or any other remedy of a similar nature.

It is in the early stage of the disease, or even in an advanced period thereof, if the fit be brought on by accidental causes, that we are to place any reliance upon opium ; and in order that its full force and efficacy should be displayed, a large dose of the medicine must be given immediately before the accession of a fit ; or, if this cannot be accomplished, as soon as any threatenings of it are perceptible. By this management we shall often succeed in postponing the fit, and in laying the foundation of another piece of necessary practice, the use of tonic remedies.

It appears by the records of physic, that those medicines which now-a-days are denominated tonic, were at all times prescribed

scribed for asthmatics under one form or other. The bitter acid, so much celebrated by Sir John Floyer, and which he borrowed from the ancients, was unquestionably of this nature. Modern practitioners however are very limited in their choice of remedies belonging to this class: their practice is chiefly confined to Peruvian bark, and a few others of considerable powers. Even these are seldom extensively employed in the cure of asthma. Sir John Floyer, who probably first introduced the bark, at least who first brought it into any general repute, restrained its use to the hysterical and other forms of nervous asthma, in which the fits return at certain stated periods. But terms of such vague and doubtful signification scarcely deserve to be mentioned in these days; and still it is surprising to find physicians adopt them, and direct their practice accordingly.

In the first stage of asthma, no spitting in general takes place till the patient has had repeated attacks of his disorder ; so that, from its commencement to the time that this symptom supervenes, every asthmatic complaint, let the habit of body be what it may, should be denominated nervous, according to the usual definitions. But as soon as any copious expectoration comes on, this circumstance alone is supposed to change its nature, and to constitute a different species.

It is true, indeed, that the recurrence of the fit at a certain hour gives it the appearance of a genuine nervous affection : nevertheless it should be considered, that this tendency in the disorder to return periodically, is to be found in every variety and form of asthma, in the spitting kind as well as in that which is accompanied with no such symptom.

In Sir John Floyer it assumed this type at an advanced period of life, though he was first attacked with his asthma in consequence of a cold that he got when very young. In fact, it is the case with many asthmatics from the effects of habit on the system ; and I have often known the disorder shortly after its commencement appear in a periodical shape, when it could be evidently traced to the operation of cold.

Many different symptoms accompany the asthma during its course, that may in some measure change its type, though it would be absurd to establish a distinct species on the basis of every instance of this sort. Should this principle be admitted, there would be no end to the multiplication of species. The genuine asthma is, for the most part, the same in all, but differently modified according to various circumstances and causes.

One asthmatic discharges a considerable quantity

quantity of phlegm by coughing, and this is called the humoural or spitting asthma ; another is troubled with flatulence, and his is termed the flatulent or hysterical asthma ; a third person's goes under the appellation of plethoric, if he be of a full habit ; and so on without end.

Hence it is evident that these distinctions, instead of leading to any useful or important discrimination in practice (as might naturally be expected), have been converted to a very bad purpose, by excluding bark from every species of asthma that could not be considered strictly nervous.

The principal symptoms that contraindicate the use of bark in the early stage of asthma, and to which physicians should particularly direct their attention, are, inflammation or tendency to it, a full habit of body, and catarrhal affections. All these very frequently take place at the same time ;

and whether they occur conjointly or separately, it would be more than rashness to administer the bark during their existence. But as soon as these obstacles are removed by general and topical evacuations, and that no difficulty of breathing remains after the fit has passed off, there are very few cases that will not admit of the bark, particularly if the repetition of the fits be owing to the dominion of the power of habit over the system.

The effects of the power of habit in renewing the disease after the primary causes have ceased to exist, have been already spoken of; and in this place it may not be uninteresting to recall the attention to it. Whoever has watched the progress of the asthma with assiduity, must have remarked that the power of habit operates with the same intensity in this as in other spasmodic diseases; that, if once allowed to take root and

and extend its influence, all the force of the best directed practice will not be able to overcome the opposition to be met with. This is fully proved by the concurring testimony of practitioners. Hence it is obvious how necessary it becomes to watch with anxious care the beginning of the disorder, and oppose with vigour and dispatch a state so dangerous in its tendency, so irresistible when once confirmed, as to bid defiance to the united endeavours of experience and judgment.

That the bark may break in upon this habit, and put a stop to its further operation, we have reason to believe, both from the cure of other spasmodic diseases, and from experience in the asthma itself. Our success, it is true, in the latter has not generally answered our expectations; and this should probably be attributed in some measure to a negligence on our part to that pe-

riod of the disease wherein tonic remedies can act with efficacy.

The cure of asthma, by means of the bark, should be conducted in the same manner as in the case of intermittent fevers. The doses of the medicine should be very large, and ought to be given within a few hours of the accession of the paroxysm, if we can foresee the time when the attack is to come on.

With respect to the administration of bark in the humoural asthma, as it is called, it is to be observed, that when the spitting is the consequence of a recent cold, it is very rarely admissible: the tendency to inflammation, and such like complaints of the chest that generally accompany this affection, proclaim the bark an expedient of a very precarious nature. But as soon as the disorder of the lungs is subdued, though the spitting should still continue, both reason and

and experience fully justify a trial of this truly celebrated medicine.

Cases however will often be met with, in which some stuffing of the chest takes place from cold in the intervals of the fits, with scarcely any increase of the preceding difficult breathing, if any had subsisted, or any symptom of inflammation; and yet it would be injudicious and improper to administer the bark during its prevalence.

Calcined zinc, commonly known by the name of flowers of zinc, next demands our attention. To the industry and abilities of Dr. Withers we are indebted for this discovery. From his experiments, it appears that he employed the flowers of zinc in almost every form of asthma, and with astonishing success. Since his publication in 1786, I have not heard of any further testimony in its favour: for I do not know any practitioner that has followed his very

laudable example, in instituting a regular set of experiments for this purpose.

In several instances it has been administered, to my knowledge, in pretty large doses, and with evident advantage; while in other trials its efficacy could not be discerned, though given agreeably to the instructions delivered by Dr. Withers himself.

Without any intention to deduct from the authenticity of those cases recorded by Dr. Withers, it is to be hoped that practitioners of abilities, who have frequent opportunities, will imitate his conduct, in order to appreciate the virtues of this medicine, and ascertain how far it may be relied upon in the multifarious cases of this obstinate disorder that daily present themselves in practice.

Like the bark, it will probably be found most effectual when given in the intervals of the paroxysms, in as large a dose as the stomach

stomach is able to bear; and when no obstruction, difficult breathing, or inflammation, exists to counteract its operation. Yet Dr. Withers asserts that, together with its tonic, it possesses an antispasmodic power; and says, that he found it beneficial in removing the difficulty of breathing, as well as in preventing the return of the fits. Something similar to this has been remarked of the Peruvian bark. A case is related by Sir John Floyer, of a Lady* afflicted with the asthma, who, on taking a dram of bark, found her breathing immediately relieved; and, by persevering in its use, she got rid of her disorder for a considerable length of time.

These facts plead very forcibly in favour of a free and undaunted application of such medicines in cases of an apparently equivo-

* Floyer on the Asthma, p. 20.

cal nature: they in particular shew us that we are not to be deterred from prescribing them on certain occasions, though the breathing should not be perfectly free in the remissions.

When water in the chest, tubercles, and other organic affections are complicated with the asthma, it is evident that neither these nor any other kind of tonic can be given with safety or advantage.

Such are the observations that have occurred to me on the different remedies usually employed by physicians in the cure of asthma. Other means besides, such as mercury, mineral waters, &c. have been recommended by particular writers; but I purposefully omit their discussion in this place, not having it in my power to advance any thing from experience concerning them that would prove useful or satisfactory. For instruction on these subjects, I must refer my readers to those

those authors who have had proper opportunities of being well informed of their efficacy and powers. I also avoid entering into any consideration of the regimen and diet fit for asthmatics, as this subject is treated with great judgment by Sir John Floyer, Dr. Withers, and other ingenious physicians.

On a retrospective view of the various remedies treated of in the foregoing pages, a question very naturally presents itself—Is the cure of a confirmed asthma to be expected from a judicious management of them? If we be governed in our decisions on this point by the experiments of Sir John Floyer, we should answer without hesitation, that a complete cure cannot be effected by them, or in conjunction with the other auxiliaries in common use.

Sir John Floyer's Treatise on the Asthma (as far as I can learn) has been erected not

only as a standard for the practice, but for the doctrine of prognostics also.

The respectability of his medical character, his minute and very accurate description of the disease, his course of experiments instituted on his own person, carry a degree of plausibility with them that is not a little imposing. Neither his candour or fidelity in relating the effects of the numberless remedies he tried, can be called in question ; yet it must be acknowledged that the result of his experiments has infused such a large portion of scepticism and incredulity into the minds of physicians, as must have repressed their ardour for improvement, and lulled them into an acquiescence in the futility of almost every kind of medicine in the asthma.

It would be as unphilosophical to deduce any conclusion from Sir John's experiments, derogatory to the power of medicine,

cine, as it would from similar trials made on a person labouring under the epilepsy for the same number of years that he laboured under the asthma.

According to Sir John's own account of himself, he was attacked with the asthma when he first went to school, which must have been at a very early period of life ; and by the time that he arrived at an age fit for making experiments, his disorder was so firmly fixed in the constitution, that it was no longer in the power of medicine or regimen to remove it.

When a disorder, particularly a spasmodic one, has subsisted for a number of years, it is not reasonable to expect that the action of medicine will produce any signal or extraordinary benefit : to an early period, if at all, we must look for satisfactory and striking proofs of their efficacy ; and if the medicines we are possessed of be tried by this test,

test, their effects will not be found so despicable as several have imagined. On many occasions, when properly managed, they will put a stop to the progress of the disease ; and if the occasional causes be afterwards avoided, a radical cure may often with certainty be obtained. This event, however, will not take place as often as could be wished, in such a variable climate as this, without further assistance. We shall frequently meet with disappointment in our expectations of the most powerful medicines, though given in circumstances highly favourable to their operation ; and should we even succeed in subduing the disease for a time, yet all the circumspection in our power will not in general be able to guard against a relapse.

To make up for this deficiency, and, on the whole, to establish the cure of this disease on a firm basis, cold-bathing must be called

called to our assistance. In truth, its efficacy has appeared to me so striking in many cases, both in removing the fits and in preventing a relapse, that, if the instructions contained in the succeeding part of this work be properly attended to, I do not hesitate to declare, that very few spasmotic disorders, of such magnitude as the asthma, will be found so completely within the reach of our art.

P A R T II.

K

C H A P. VI.

OF COLD-BATHING.

OF all the remedies that physicians are acquainted with, there is probably not one held in more universal esteem for the cure of many diseases than cold-bathing. In the long catalogue of chronic complaints, particularly in the nervous and spasmodic, experience has stamped a value on it superior to that of any medicine yet discovered. In the asthma, however, this practice has been rarely recommended, as will fully appear from what is to be met with on the subject in the writings of physicians.

We find but one of all the ancient

writers who recommends cold-bathing in the asthma.

Cælius Aurelianus says, that residing at the sea-coast, and bathing in the water, are highly useful to asthmatics; though he produces no instance of its success to support his assertion.

The next authority that we have is Sir John Floyer, who gives some proofs of its utility, in his Treatise on Cold-Bathing.

“ I have (says he) discoursed with an asthmatic person, who has had an habitual asthma for many years, and she informed me, that she went into St. Winifred’s Well a Holywell, and that her asthmatic dry cough went off for some time, but at last returned again.”

Treatise on Cold-Bathing, p. 121.

“ I have had several accounts of people being much relieved, and some perfectly cured by the use of cold immersion, in asthmas,

“ asthmas, and other difficulties of breathing,
 “ especially if the infirmity is taken in the
 “ beginning, and not confirmed by time :
 “ yet an old gentleman, of sixty years,
 “ lately told me that, having had a convul-
 “ sive asthma for at least seven years, he was
 “ so cured by three times bathing, that he
 “ had not the least fit for three months after ;
 “ and believes that, had he lived tempe-
 “ rate, and continued bathing sometimes, it
 “ would not have returned.”

Ibid. p. 314.

Dr. Millar, in enumerating the different authorities in support of cold-bathing, transcribes a passage from Dr. Baynard's Essay on this subject : but as this quotation agrees word for word with the preceding one from Sir John Floyer, I think it unnecessary to insert it here.

I have not the work of Dr. Baynard at present in my possession, but I imagine that

he took this passage from Sir John's work, and that Dr. Millar was mistaken in supposing that it originated with Dr. Baynard himself.

If this be not the case, I cannot account for so extraordinary an instance of two writers exactly corresponding in their ideas and language on such a subject as this.

The only writer that remains to be considered is Dr. Smollet, who gives a circumstantial account of the effects of cold-bathing on his own person.

“ In consequence of a cold caught in a few days after my arrival in France, I was seized with a violent cough, attended with a fever and stitches in my breast, which tormented me all night long without ceasing. At the same time I had a great discharge by expectoration, and such a dejection of spirits as I never felt before. In this situation, I took a step which may appear

" appear to have been desperate. I knew
 " there was no imposthume in my lungs,
 " and I supposed the stitches were spasmo-
 " dical. I was sensible that all my com-
 " plaints were originally derived from re-
 " laxation. I therefore hired a chaise, and
 " going to the beach, about a league from
 " the town, plunged into the sea without
 " hesitation. By this desperate remedy ["] I
 " got a fresh cold in my head : but my
 " stitches and fever vanished the very first
 " day, and, by a daily repetition of the bath,
 " I have diminished my cough, strengthened
 " my body, and recovered my spirits."

Smollet's Travels, vol. i. p. 22.

Dr. Smollet also mentions, in another part
 of his work, that he had two returns of his
 disorder, and that at each time he subdued
 it by sea-bathing.

His agitatus furiis, æger ad mare provolat:
 in fluctus se præcipitem dat: periculum

factum spem non fefellit: decies iteratum felix faustumque evasit. Elater novus fibris conciliatur—febricula fugatur—aëris dyspnœa solvitur.

Ibid. p. 179.

Desperatis denique rebus iterum ad mare veluti ad anceps remedium recurritur. Balneum hoc semper benignum. Dolor statim avolat. Tertio die febris retrocessit. Immersio quotidiana antemeridiana ad vices quinquaginta repetita symptomata graviora subjugavit.

Ibid. p. 180.

These then are the principal, if not the only facts that the records of physic afford in favour of cold-bathing in asthma; and, before we proceed any farther, a few observations on each shall particularly engage our attention.

From what is to be found in the writings of Cælius Aurelianus relative to this practice, very few, I suppose, would be fond of

adopting

adopting it. The bare *ipse dixit* of an author, let his reputation be what it may, will seldom induce practitioners to prescribe any remedy of a precarious nature; they must have something besides conjecture to recommend it to their notice.

No such charge, however, can be brought against Sir John Floyer, as he appeals to the test of experiment for what he has advanced, and gives a satisfactory account of the effects of the water on some asthmatic patients.

But, did Sir John, in consequence of the information he had on the subject, consider cold-bathing a remedy well adapted to the cure of asthma?

He laboured under the asthma, according to his own acknowledgement, for the greater part of his life, without obstructions in his lungs, or any other disorder in which cold-bathing would be prejudicial; and still

we do not find that he had courage enough to make use of this remedy.

Moreover, he does not inform us, in any part of his Treatise on Cold-Bathing, that he tried it on his patients, or even recommended it to them; and when he comes to give his own opinion, he delivers it in such an equivocal manner, as to leave very little doubt on the minds of his readers, that he placed no great confidence in it, and that he was not well qualified to decide on its virtues.

“ I cannot believe (says he) that cold-bathing can help any defluxions, such as the asthma, without water drinking, and in a recent disease.”

Treatise on Cold-Bathing, p. 20.

That the internal use of cold water should assist its external application in the asthma, is an assertion of so extraordinary a nature, that very few will be disposed to attend to it;

it; and I am convinced that, if Sir John Floyer had experience for his guide in this matter, he never would have been led into this mistake, nor have broached so erroneous a doctrine.

The case of an asthmatic patient will be related hereafter, who, during a course of sea-bathing, drank at least a bottle of wine every day, and sometimes exceeded this quantity without any injury. In fact, I never gave any particular directions on this head, except in the present case, and wine was found absolutely necessary from the low and debilitated state of the patient: all the rest were allowed to drink whatever agreed best with them, and the cure went on as well as if the most scrupulous attention had been paid to this point. There is one circumstance that seems to have led Sir John into this mistake. He in general found that water agreed better with his asthmatic patients

patients than any other liquid ; and, from this principle, he was probably led to believe that cold-bathing would prove injurious, unless the patients restrained themselves to the drinking of water during the cure.

The only remaining fact to be considered is that related by Dr. Smollet, concerning his own person.

In his case, cold-bathing was attended with the most extraordinary success, notwithstanding there were many circumstances which seemed to point it out as a desperate expedient. He says, that he was induced to try it, from an idea he had of his disorder originating in relaxation.

It may look like presumption in me to differ in opinion with a man of no inconsiderable knowledge in medicine about the cause of his disorder, and one who, it is to be supposed, was well acquainted with the

causes that contributed to his valetudinary state; but whatever had been his previous constitutional infirmity, the asthmatical attack in question was evidently the effect of cold, had no connexion with relaxation or debility, and of course did not warrant so rash and immediate a use of cold-bathing.

The suddenness of the attack, attended with fever, stitches, and expectoration, proclaim a strong tendency to inflammation in his disorder, and should have deterred him from trying so hazardous an experiment until the violence of the symptoms had in a great measure abated. By his own confession he got a fresh cold in his head, which he probably would have escaped, had he waited for a few days till the feverish state of his disorder passed off; and it is astonishing to find that nothing more serious befel him in such a situation. But he was not to be dismayed: he persevered in his resolution,

lution, and had unheard-of success. A second and a third time he had recourse to this remedy, and with no less impunity than at first.

Physicians, however, should be very cautious how they consider the fortunate issue of this case, an example worthy of imitation.

In every recent attack from cold, or indeed from any other cause, it would be highly imprudent to precipitate a person into a cold bath, without farther ceremony, though no inflammatory symptoms were present at the time. But how much more rash and unguarded must it be, to direct cold-bathing for an asthmatic labouring under fever, stitches, and difficult breathing, which indicate at least a strong tendency to inflammation in the lungs!

To illustrate this, I will give a case.

There was a gentleman under my care

very

very lately, who, from cold-bathing, was fortunate enough to get rid of his asthmatic fits, in a great measure, after every other method had failed: but by unguardedly exposing himself to cold air, he unluckily got a relapse. Not dreading, however, any bad consequence from a remedy that had hitherto served him so essentially, he continued to bathe every day, until an affection of the lungs, bordering on a peripneumony, obliged him to desist.

This shews us very clearly what risque a person in Dr. Smollet's situation must run from cold-bathing, and accordingly we do not find that his success has excited any ardent desire in the breasts of other practitioners to follow his example: indeed there is so much of the marvellous in his case, that one may naturally suppose it would rather suppress than promote such a disposition in people of prudence and reflexion.

On

On the whole, it is evident that the facts and observations to be found in medical authors relative to cold-bathing in the asthma, are few, unsatisfactory, and deficient. That they have had no weight with practitioners, is fully evinced by the medical writings of modern times.

In all the late publications on the asthma, cold-bathing is not even mentioned as a remedy, except in one work *, and that too in a transient manner: no new facts are brought forward, to give additional credit and stability to this practice: the author implicitly relies on the authority of Dr. Millar, and he (as we have already seen) resorts to the doubtful evidence of Sir John Floyer and Dr. Smollet, without any experience of his own to corroborate the testimony of either.

The practice of physicians, according to

* Withers on the Asthma, p. 114.

my information, is perfectly conformable to their writings. If bleeding, blistering, and the rest of the common and well-known remedies happen not to succeed, they give up the ill-fated victim to patience and an incurable disorder.

It is not to be wondered at, that the cases related by Dr. Millar should have been passed by unnoticed by physicians. A few solitary facts, though unexceptionable as to their authenticity, when founded on experiments of an apparently dangerous nature, and delivered without any attempt to form a system of principles, will seldom flash conviction on the minds of people that are accustomed to hear facts published with confidence by one physician to-day, and contradicted by another with the same certainty the next.

These, with other considerations, have induced me to institute the following expe-

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riments,

riments, in order to decide on the propriety of cold-bathing in the asthma; and, I suppose, the very lame and imperfect account of it to be found in the works of physicians, will fully justify the undertaking. To guard against any objection that may be made to the facts I want to establish, I took down a particular state of each case at the time the patient was committed to my care, and obtained a precise and satisfactory account of the operation of the water, either during the progress of the cure, or, if this could not be had, immediately after it was fully completed.

In short, from the situation of the different patients before recourse was had to cold-bathing, from the inefficacy of the other remedies employed, and from the manner in which the experiments were conducted, I expect it will appear that no fallacy can be discovered in the inferences drawn from them,

them, nor any room left for cavil or contradiction on this subject. In many cases besides the following, I have known cold-bathing prove highly salutary: but as I was not exact in committing to paper the history and cure of such patients, I cannot think of offering any fact from memory alone, but shall confine myself to a more faithful and authentic record.

CASE I.

THE first instance of the good effects of cold-bathing in asthma that happened to come within my knowledge, was that of a woman, about twenty-five years of age, who had borne several children. From her first pregnancy onwards, she was subject to spasmodic complaints of the stomach and bowels, both during the periods of gestation, and the intervals thereof; without the smallest

tendency, however, to any disorder of the lungs. But on exposing herself to cold shortly after a lying-in, she began to feel an uneasiness in her breathing, attended with a short teasing cough, which, in a few days, terminated in a confirmed spasmodic asthma. In no case whatsoever were the pathognomonic symptoms of idiopathic asthma better marked than in the present: the fits returned most commonly late in the evenings, preceded by flatulence, continued through the night, and ended towards morning with a free and plentiful expectoration. In fact, all those symptoms were present that usually characterise the most violent and alarming state of this disease.

Blisters, asafœtida, camphor, and the rest of the usual remedies in those cases were tried; but all to no purpose, for the fits still returned every night with very little abatement of their violence. At length recourse

course was had to cold-bathing, and the success that attended its use far exceeded any expectations that were formed of it. In less than a week from the first immersion, the patient found herself very sensibly relieved ; and by continuing the practice for the space of six weeks, she obtained a complete and lasting recovery.

If a single fact can authorise a particular mode of treatment in any disease, we are certainly warranted in recommending the cold bath in asthma from the precedent before us, especially as the utmost precaution was taken to guard against any deception about it. I was altogether so exact, that I even intermitted the bath for a few days, after some change for the better had taken place, in order to satisfy myself of its efficacy : but the patient began to relapse so suddenly into her former situation, that

an immediate repetition of the bath was found absolutely necessary.

Hence we see that very little room is left for supposing that nature was in any degree entitled to the merit of this recovery; and this will be the more readily acceded to, if people consider how feeble and deficient her endeavours must be, when engaged in combat with such a formidable adversary as the asthma.

River water was the bath made use of on this occasion, from its vicinity to the patient's habitation, and as a preparatory step to bathing in the sea; but as the former answered every purpose that could be expected, the latter was neglected, and the cure went on equally well without its assistance. This, however, is the only instance in which I have seen a cure obtained without sea-bathing; its powerful stimulus being in

in most cases necessary for restoring to the lungs their lost elasticity and tone.

C A S E II.

RICHARD DUNPHY, of whom some account is to be given in this place, was about the age of forty when first attacked with the asthma. During the winter season, in particular, he was subject to frequent fits of his disorder; and, in the intervals of them, was affected with more or less of difficult breathing. He laboured under his disorder twelve months and more, when he first applied to me in April 1785. Several remedies were tried, such as antispasmodics, blisters, expectorants and others, with little or no alleviation of the symptoms: indeed the disorder seemed to gain ground, notwithstanding the repeated use of them for the space of seven weeks.

Finding very little probability of gaining any advantage by the medicines of the *Materia Medica*, I thought myself bound to recommend a trial of the cold bath, from the glaring proofs of its efficacy in the case just now related ; nor had I any cause to repent of my rashness, as the patient soon experienced the happiness of getting rid of a disorder which must have inevitably terminated in his death. By his own account, it appears that he had not bathed above six days, when he found a very sensible change for the better ; and by continuing the practice once a day for seven weeks only, the asthmatic fits were totally removed.

On this occasion sea-bathing was made use of, and nothing was done previous to the course, except the taking of a mild purgative : the precautions to be mentioned hereafter were not attended to in this, or in the case immediately following : both patients

patients were constantly employed in bodily labour; and on this account they probably did not stand much in need of a preparation for sea-bathing, by having first bathed in water of a warmer temperature,

C A S E III.

RICHARD HOLLAND, æstat. 48, was subject to a cough at different times, for several years, but was at last suddenly seized with a fit of the asthma at night, that obliged him to sit up in bed till morning. From that time till he applied to me in April 1787, which was about two years, he was very few nights in the winter season free from an attack. In the summer season also, the fits very constantly returned. At all times his breathing was rather difficult, attended with a stricture at the chest, which seemed to impede the expansion of the lungs.

lungs. His cough, though generally hard through the day, was soft in the morning, and generally afforded relief. Being apprehensive of tubercles having formed in his lungs, from the long continuance of the cough previous to the asthma, I had some doubts about the propriety of cold-bathing: but on finding his pulse very regular between the fits, I concluded that they had not yet taken place, as a quickness of pulse is generally the consequence of such an internal irritation: I then, without waiting to see the effects of medicine, advised him, as soon as the season should advance, to make a trial of cold-bathing; and in order to induce him to it, I told him that there were little or no hopes of a cure from any other source. In defiance of the general outcry of his friends against the danger of the remedy, he followed my advice, and, to my astonishment, returned from bathing

in three weeks time, perfectly free from asthma, or difficulty of breathing of any kind.

C A S E IV.

WILLIAM DONOVAN, of this city, carpenter, ætat. 46, laboured under the asthma for seventeen weeks, when he came to me in September 1789. He informed me that, for a month before the asthma appeared, he was troubled with a cough. The asthmatic fits generally came on at night, though at times he would have two or three attacks during the day. His breathing between the fits was seldom or never free, particularly if he made any exertion that hurried him, as in walking smartly, or in attempting to ascend any eminence. During the above length of time that he was afflicted with the asthma, he was never able to work

one day at his trade. Being of opinion that medicine would avail him very little in his situation, I recommended a trial of sea-bathing. For the first week the water had no effect in diminishing the violence or duration of his fits, though in other respects, as in mending his appetite and spirits, he experienced some benefit. About the tenth day his breathing began to grow better; and by continuing to bathe every day for three weeks only, he got completely rid of his asthma. At the present time, he is as well able to work at his trade as ever.

C A S E V.

MICHAEL M'Bay, ætat. 22, by exposure to cold, got a severe cough that held him for three months, and then terminated in a tightness of the chest, lowness of spirits, distension of the stomach, and flatulence. He

was

was not many days troubled with these symptoms, when he was suddenly seized with a difficulty of breathing, that seemed to threaten immediate suffocation. About twelve o'clock every day he had an asthmatic paroxysm of this kind for upwards of three weeks: but by degrees they began to disappear; and when he came to me in June 1789, his chief complaints were, distension of the stomach from wind, low spirits, and stricture across the lower part of his chest. He told me that he had applied to different practitioners, without receiving any benefit from their prescriptions. Judging that the usual remedies, in such cases, had been administered, I applied a blister to the lower part of the chest, and directed him, as soon as the part should heal, to plunge himself in a river every morning, it being at that time the only bath that could be conveniently procured. He followed

my advice, and came every day to inform me what effect the water had on him.

It is curious enough to find that, during the time of immersion, the stricture at his chest, and any uneasiness he had in his breathing, vanished instantaneously, and did not return for a considerable time after he came out of the water. To make use of his own phrase, he felt his chest grow wider; and this effect was produced on the first, as well as on every other subsequent bathing. Finding, however, after the expiration of eight or ten days, that he did not mend according to my expectations, I thought that sea-bathing might produce that permanency of effect which was experienced in the former cases. But in this I was disappointed. After bathing in the sea for three weeks, he had still some remains of the weight and stricture of his chest; but his lowness of spirits, distension of the stomach, and other

nervous

nervous and hypochondriacal symptoms were completely removed.

Though a radical cure was not obtained by the bath in the present case, it nevertheless operated in such a manner as to strike the mind with a full conviction of its efficacy in suppressing the spasmodic affections of asthma; and it is more than probable, from the great benefit this patient received, that had he persisted in bathing for some time longer, a complete cure would have been the consequence.

C A S E VI.

MR. H. ætat. 30, of a melancholic temperament, and subject at times to vomitings, lowness of spirits, giddiness, and other symptoms of hypochondriasis; at length was suddenly seized with a slight fit of the asthma, about twelve o'clock at night.

About

About the same hour every night for the space of three weeks he had an attack, and every succeeding one was more violent than the former.

Dr. Thomas Butler, a physician of eminence in this place, and I, were called to his assistance.

On examination, we found that his disorder had already made a considerable breach in his constitution: his pulse was small, slow, and extremely feeble; he was much reduced in flesh; his hands trembled; his limbs tottered under him; and he seemed scarcely able to walk across the floor. Besides this general state of debility, he complained of a stricture and weight of his chest in the intervals of the fits, that took place on the fifth or sixth day of his disorder.

To remove the stricture, and prevent the return of the paroxysm at night, a blister was applied to his chest; and a draught, with

with paregoric elixir, and some drops of the theb. tinct. to render its operation the more effectual, was prescribed, with directions to have it administered about a quarter of an hour before the usual time of the coming on of the fit.

The report next morning was as follows :

24th. Had a violent fit at the usual hour, and seems quite low and exhausted this morning, notwithstanding his blister rose well, and he took the draught as directed.

On this Dr. Butler proposed the use of the Peruvian bark, in as large doses as the stomach could bear; and from the periodical nature of the complaint, and the enervated state of the patient, it seemed to be particularly well adapted to his situation, and to promise more success than any other medicine whatsoever. It was combined with valerian, in the following form :

M

Rx. Cort.

R. Cort. Peruv. Rub. pulv. 5j.

Rad. Valer. Sylv. pulv. 5ijj.

Syrup. Zingib. q. s. ut fiat Electar.—cujus sumat
æger cochleare parvulum 2da quaque hora.

25th. He is considerably better this day, though the medicines disagree with his stomach. He had but a slight fit this morning at four o'clock, that disappeared in a few minutes. The electuary was continued in the same form and quantity.

26th. He is not so well this morning as yesterday: had a fit, about four o'clock, that held him three quarters of an hour.

27th. The paroxysm came on about three o'clock, and continued an hour. The electuary still produces sickness of stomach, and other distressing symptoms.

To obviate these complaints, and to throw in a greater quantity of the bark if possible, it was given to him in the form of pills, with an aromatic; and as the flowers of zinc,

zinc, it was supposed, might assist its operation, they were substituted in room of the valerian, and joined to the bark.

28th. The fit returned at two o'clock, and continued about an hour and a half, of the same violence as the night before.

29th. He had a return of the asthmatic fit last night, that continued above an hour.

30th. He had a violent attack, which lasted between two and three hours, though he increased the dose of his pills, so as to have taken on the 28th and 29th an ounce of bark, and twelve grains of the flowers of zinc each day.

From the foregoing reports, we see that the Peruvian bark, on the first days of its administration, considerably checked the progress of the asthma; but that, as soon as the system became habituated to it, its efficacy began to diminish every day, till at

length it produced no good effect whatsoever.

It appears extremely probable, indeed, that if the bark could have been given in sufficient quantity on the first onset, a complete stop would have been put to the fits: this, however, was rendered impracticable, by the delicate state of the patient's stomach; and all our hopes of a cure from this source were frustrated. The addition of the flowers of zinc did not render it more effectual.

It is worthy of notice, that, at the time the bark seemed to operate most advantageously in combating the disease, it had little or no effect in restoring the patient to his former state of vivacity and vigour; he still remained depressed in his spirits, feeble in his limbs, and in every respect as enervated as before he began to make use of it.

This disappointment from medicines of

the most promising nature, fully justified a trial of some very active and powerful remedy. Accordingly, from my experience of its efficacy in the preceding cases, I suggested to Dr. Butler the use of sea-bathing, as the only expedient now left that afforded any flattering expectations. To this he readily assented, and informed me, that an asthmatic, by his advice, had recourse to it very lately with extraordinary success. To prepare our patient for bathing in the sea, an artificial salt bath was immediately got ready; and, on the first immersion, he had no return of the paroxysm that night, though he awoke at the hour it usually came on. In this manner he passed five or six nights free from any threatening of an attack; but on going into the bath one morning, he unfortunately got cold, and, in consequence thereof, he had a slight fit that night.

As he got directions to repair to the sea

after a few dips in the artificial bath, it happened unluckily that he went there at the time he got this relapse from cold: for, during the first week of bathing, instead of any amendment taking place, we find him grow worse and worse every day.

At the end of this period, however, he began to improve; and, in the short space of a fortnight, he completely recovered his appetite, his strength, and his spirits.

Besides this re-establishment of his general state of health, he had scarcely any remains of the asthma; not more, in fact, than what shewed that the tendency in the system to renew the fits was not entirely eradicated. For the last week he was quite free from asthma, except once or twice that he had some uneasiness in his breathing, that vanished in a few minutes.

Decluded by these appearances of a complete recovery, and seized with a strange and

and unaccountable insensibility of the precarious situation in which he still remained, he relinquished the water, in direct opposition to the advice of his physicians, and the eager and pressing solicitations of his friends. During six weeks from the time that he left off bathing in the sea, he remained without any perceptible alteration for the worse ; but by frequent attacks of cold, his disorder returned to its ancient form.

In the preceding cases, it has been my chief aim to relate, in a plain and perspicuous manner, the history of the disease in each of my patients, and the effects of cold-bathing on them, without any wish or desire to exaggerate its virtues. Let others decide how far they may serve as examples worthy of imitation. Though conscious of not having been deceived by false appearances in the observations I made, and

that I have not been duped by any partiality to the practice in question, I still think it necessary, from the difficulty that attends the ascertaining of facts, to strive to establish the safety of cold-bathing in asthma, by arguments drawn from a different source to that of the experiments above mentioned, and to answer every objection that can possibly be made against it.

Thus both facts and reasoning will unite in confirmation of this practice, and will exhibit a body of evidence in its favour, as strong and convincing as is generally met with on a subject of this nature.

C H A P. VII.

COUGHS, catarrhs, and other disorders of the lungs, are very common in the winter season, in all cold climates. Such complaints are, with some reason, supposed to originate in suppressed perspiration, or in a change of the circulation of the fluids from the external to the internal parts, in consequence of the operation of cold. On either supposition, cold-bathing must be looked upon as a very extraordinary mode of cure for any pulmonary affection. And as it appears from daily observation, that the application of cold is the most frequent cause of asthma, cold-bathing must be as prejudicial in this, as in any other complaint of the lungs whatsoever.

It

It happens to be the case with asthmatics in general, as it is with persons who have other complaints of the lungs, that the winter season is, for the most part, injurious to them: hence it follows, that cold-bathing, whose operation is similar to that of cold air, must be a precarious remedy in the asthma. These are the principal arguments that, in my opinion, can be advanced against cold-bathing in the asthma; and in all probability they have had very considerable weight with physicians: but how far they were authorized to reject this practice on such grounds, will be seen by the following enquiry.

On examining a number of persons with various complaints, and of different ages and constitutions, who have bathed for a season in the sea, it will in general be found, that few of them have been attacked with coughs or catarrhs. This may afford some room for

for speculation to a person who would consider that, perhaps, the major part of them repaired to the water without consulting any physician on the propriety of such an undertaking. It must, indeed, appear surprising how such a number of valetudinarians escape with impunity, when we consider the danger that is supposed to arise from the suppression of perspiration.

However, not only the vigorous and healthy, but also the feeble and enervated, seldom experience any complaint of the lungs from the operation of this element. Even people of the latter description are often obliged to withdraw themselves from bathing, in order to avoid many disagreeable and distressing complaints, among which a cough or catarrh is very rarely discovered. What conclusion are we to draw from such premises? The most obvious and natural one is, that though the perspiration be suppressed,

pressed, and the fluids be driven from the external to the internal parts during the time of immersion, they are in general restored to their former situation shortly after the operation of the water is over. If this inference be not admitted, at least it is natural to suppose that, in the customary way of cold-bathing, the action of the perspirable matter on the lungs is not of a very formidable nature.

From the well-known astringent effects of cold water on the surface of the body, it is reasonable to believe that a temporary check is put to the perspiration in every instance of cold-bathing: but how or in what degree it is productive of disease, is probably a matter of difficult investigation.

Without being under the necessity of indulging the imagination in any fanciful theory, we can prove, from incontrovertible facts, that a very great latitude may be allowed

allowed in cold-bathing, without any danger from the retention of the perspirable matter.

Fishermen often remain up to the middle in water, for the greater part of a day, without receiving any injury. Persons who are employed as assistants at bathing places, have the greatest part of their bodies under water for several hours every day during the season, without finding any inconvenience from it by cough, catarrh, or any such disorder.

If we were to reason *a priori* on an experiment of this kind, without waiting for the event, we would readily agree about the consequence: we would not hesitate to declare, that some alarming disaster must attend the experiment; that a stubborn cough which may end in a consumption, an insuperable inflammation of the lungs, or some other

other very formidable distemper, must necessarily arise from suppressed perspiration.

Such are the dangers which the fancy, heated with theory, will portend on such an occasion. But how weak its fears, and how groundless its apprehensions, when a person, after residing for six or seven hours in the water, discovers not the slightest tendency to disease ! This fact (which will be satisfactorily explained hereafter by some observations of Dr. Gardiner) is adduced for the purpose of banishing from the minds of people their fears with respect to the influence of cold-bathing on the perspiration.

But arguments may, perhaps, be advanced against this doctrine, and with the effect of overthrowing it. Thus it may be said, that those who are so much accustomed to the water as the fishermen, &c. just mentioned, cannot possibly experience its ordinary effects :

fects: that the power of habit in resisting the cause of disease, is not more evidently displayed on this occasion than on many others which daily present themselves; and that, of course, the examples brought forward in support of cold-bathing, cannot amount to any clear or satisfactory proof.

As a farther confirmation of this reasoning, it may be alleged that, in many instances, especially on the first onset of bathing, a diarrhœa occurs, which must originate in the action of the perspirable matter on the intestinal canal.

The power that the human body possesses of resisting the operation of cold, is allowed by all philosophers to be very considerable, however they wish to account for it; and when to this is superadded the power of habit, it must be very great indeed. But, that in consequence thereof it should be capable of preventing the effects of suppressed perspiration

perspiration on the body, is a conjecture supported by very little probability.

In the first place, it is evident that the water, during every month of the summer, is so many degrees below the ordinary temperature or standard heat of the human body, that such a constriction is induced on the exhalent vessels, as effectually prevents the escape of that invisible halitus that constitutes the matter of perspiration. Hence, considering the quantity of perspirable matter that is accumulated in the body during a person's residence for several hours in the water, it is improbable to suppose, that the natural resisting power of the constitution, the power of habit, or the co-operation of both, can guard against a catarrhal affection, if, in any instance, it arose from suppressed perspiration.

When a person makes use of the water medicinally, and remains in it but a few seconds,

seconds, such a brisk vibration of the fibres; and such a universal glow of heat in general succeed, that any danger which might be apprehended from suppressed perspiration will be effectually obviated by such vigorous exertions of the system: but if the body be immersed in cold water for five or six hours, no such effort can take place as may be supposed to counteract, in any habit, the agency of the perspirable matter on the lungs:

As to the other argument, I think its fallacy may be easily exposed. Many instances of the most violent state of costiveness have occurred, wherein all the usual remedies were judiciously employed without the smallest advantage; when the dashing of a few bowls of water on the abdomen, or lower extremities, had the happy effect of procuring an instantaneus evacuation. Here it would be extremely unphilosophical to suppose, that the feeble action of the per-

spirable matter on the bowels removed the constipation, when it can be more rationally explained on the principle, that the water, by its shock or stimulus, brought on an extraordinary degree of action in the bowels, by which they got rid of their contents.

If the diarrhœa of cold-bathing had its origin in obstructed perspiration, how comes it to pass that the lungs are not affected by the same cause and at the same time with the bowels?

The internal surface of the lungs seems as liable to be acted upon by the perspirable matter as that of the intestinal tube : How are we then to account for the absence of catarrh when a diarrhœa occurs ? A little attention to the difference of structure in these organs will clear up this point. Thus aloes and colocynthida rubbed on the integuments, will often bring a diarrhœa, from the sympathy that subsists between the external

and

and internal parts. In like manner cold water, by its stimulus to the abdomen, will sometimes act as powerfully as a brisk purgative: but the lungs, not being of a muscular structure, are not so susceptible of impression from the temporary action of stimuli externally applied, and, of course, will not be so readily affected by cold-bathing as the bowels.

It is possible that the diarrhœa of cold-bathing may sometimes arise from a redundancy of bile in the bowels; and this may be attributed to the effect of the water in determining the perspirable matter to the liver: but the explanation will be more satisfactory, by supposing that the stimulus of the water is communicated to the vessels that pour out the bile, and thus occasions a plentiful flow of it into the bowels.

To illustrate and confirm the preceding doctrine, I will present my readers with

some observations in point, from Dr. Gardiner's excellent Treatise on the Animal $\text{\textcircled{E}}$ conomy. They will also be found to contain a very just and satisfactory rationale of the modus operandi of cold in the production of catarrh.

Dr. Gardiner, not considering obstructed perspiration the cause of catarrh, makes use of the following reflections :

“ An invariable effect of cold during its application, is a diminution of perspiration, from the constringing action of cold on the vessels of the skin. But this usually happens without any injury to the body : for the person no sooner moves himself into a warmer air, than his perspiration is again increased, in proportion to the degree of heat applied. But with regard to the quantity of perspiration or degree of cold that may be endured with impunity, custom allows of a considerable

" latitude. Shepherds, on the mountainous
 " parts of this country, bear the cold of
 " winter surprisingly: and I have known
 " the guides where sea-bathing is used, have
 " the greatest part of their bodies immersed
 " five or six hours every day for several
 " months together in water above forty
 " degrees colder than the temperature of
 " their bodies. For unless the cold is so in-
 " tense, or continued so long as to affect the
 " energy of the nerves, it produces no bad
 " consequences. I mean not to say, that
 " long obstructed perspiration is not hurt-
 " ful to the constitution; for certainly it is
 " often a principal agent in the production
 " of scurvy, dropsy, and other disorders:
 " but that a temporary obstruction of per-
 " spiration on catching cold, or at the com-
 " mencement of a catarrh, should be the
 " cause of the disease, I have never yet been
 " able to comprehend. The spasm on the

“ extreme vessels of the skin, with sometimes a slight degree of vigour about the beginning of the disorder, returning at uncertain periods, and commonly of short duration, can have very little influence. For although a free perspiration contributes in general to the relief of parts affected, as shall afterwards be more particularly noticed, yet profuse sweats are not uncommon during the continuance of the disease, without any alleviation of the symptoms, when the cause of it has operated strongly on the system.”

After quoting the statical experiments of Dr. James Keil, which prove that a considerable increase or diminution of perspiration may take place in twenty-four hours, without any apparent injury to health, or the smallest tendency to catarrh ; he reasons in the following manner :

“ The sympathy between the nerves of the

" the skin, from the application of a certain
 " degree of cold, and those of the internal
 " membrane of the bronchii, is so remark-
 " able, that many delicate persons are im-
 " mediately seized with a cough, when part
 " of their body, and especially their feet,
 " have been exposed to a severe cold, inde-
 " pendent of the application of cold air to
 " the lungs. And if, the instant a person
 " perceives it to have this effect, he moves
 " into a warmer situation, so as to become
 " comfortably warm, the cough soon leaves
 " him. But if he shall remain, or be un-
 " avoidably exposed to the cold for some
 " time, the cough may continue for a shorter
 " or longer period, and be attended with all
 " the effects of slight or severe catarrh, ac-
 " cording to the time he was so exposed."

Gardiner's Observations on the Animal
 $\text{\textcircled{C}}$ economy, p. 245-46.

From the foregoing observations, I expect

it will appear, that we need not in general be very much alarmed about the effects of obstructed perspiration in the ordinary way of cold-bathing: it will now be necessary to take a more particular view of it with respect to its operation on asthmatics.

In the greater part of the disorders of the lungs, as in ulcers, tubercles, recent coughs and catarrhs, &c. more or less of inflammation is commonly found to accompany them. So susceptible of the action of cold are the lungs rendered in consequence thereof, that cold-bathing cannot possibly be ventured upon without the most imminent danger: let us therefore adopt what theory we will, whether that of suppressed perspiration with writers in general, or that of nervous sympathy with Dr. Gardiner, an increase of the preceding inflammation, and of course an aggravation of all the symptoms, must necessarily follow. Without due

attention

attention to the nature of asthma, we are apt to conclude, that consequences equally alarming will attend the use of cold-bathing in this disorder also. But a little reflection will banish such an ill-founded conjecture.

In the first attack of the asthma, we often discover symptoms of inflammation, or we find the disorder of such a mixed and complicated nature, that the exact line of distinction between a spasmodic and an inflammatory affection of the lungs cannot be easily drawn. This stage, however, passes off in some time, and the disorder assumes the form of a genuine unmixed spasmodic complaint. When this period once arrives, and if the disease be kept up by the power of habit, as is most commonly the case, we should endeavour with all our might to counteract it ; and, for this purpose, no danger can in general attend the use of cold-bathing. Every symptom of inflammation, or tendency to it, has now disappeared ; and in

these

these cases we have, for the most part, an opposite state to that of inflammation to deal with. In this stage and form of the disease, perhaps, the greatest danger to be apprehended from cold-bathing is some inconsiderable catarrhal affection, or, at worst, a return of the asthmatic fits. It is even highly probable, that such consequences are never experienced from the operation of the water itself.

We know to a certainty, that spasms in the stomach and bowels returning periodically, and continuing for a length of time from a morbid state of irritability, have been very frequently removed by sea-bathing. Obstinate vomiting, which often depends on similar causes, has been radically cured by the partial application of cold water to the region of the stomach, after every other powerful remedy was tried in vain. In cases of violent hysteria, cold water, applied to the same part, has had an immediate

immediate powerful effect in removing that suffocating distention attendant on the hysterical paroxysm *. Here we have convincing proofs that cold water may be applied to the stomach during the existence of spasms therein with safety and advantage ; and as this is the case, it is to be presumed that cold-bathing may be used in spasmodic asthma, without any danger from suppressed perspiration, or any other mode of action whatsoever.

But some objections may, perhaps, be raised against this conclusion with respect to the asthma.

It may be alleged, that the functions of the lungs are altogether so different from those of the stomach, that it is improper to reason by analogy from the one part to the other : that the lungs, from their situation and many other causes, are so readily acted upon in a

* Vide London Medical Journal, vol. vii. p. 123.

diseased state by cold, that the external application of cold water may injure them when attacked with spasms, though it should relieve the stomach when labouring under the same disorder.

But though we should admit this reasoning to be in a great measure well founded, the consequence still does not follow that immersion in cold water is prejudicial; for it will immediately appear that cold-bathing may be useful to asthmatics, though they should be materially injured by the partial application of cold.

Coughs, catarrhs, &c. are, for the most part, found to arise from the partial application of cold. Such complaints, no doubt, are sometimes brought on by cold applied in a general way: but while we look upon this operation of cold in affecting the lungs as an occurrence by no means frequent, we must consider its common mode of action

in

in most cases to be in a partial way. Thus we find the lungs of some delicate persons are readily affected by cold applied to the feet; nay, by such a moderate degree of it, that had it been applied to the whole surface equally by immersion, or in any other manner, no morbid alteration would in all probability have taken place in any particular part. Moreover, it appears that the first threatenings of catarrhs, inflammations, and other disorders of the lungs, are often occasioned by the partial application of cold air to the lungs when the body is overheated, and are found to arise in a mild season, if the air be directed to the lungs in a stream or current, as by sitting at a window, or exposing the body in any situation by which a similar effect may be produced. It should also be observed, that in these cases the disorder is generally slight at the first onset, till, by unguardedly exposing the body again

again and again to the air, the affection arises to such a pitch as to be attended with danger.

This subject is well illustrated by the following passage from the ingenious author already mentioned :

“ Although an accidental exposure to an
 “ intense cold for any considerable time is
 “ soon followed by a catarrh, catarrhal or
 “ inflammatory fever; yet the effect of such
 “ changes in the weather as are related in
 “ p. 168, are commonly slow, and do not
 “ affect the health in any remarkable
 “ manner for some time, because it is not
 “ the cold of a few hours which affect
 “ people in general. It usually requires
 “ the operation of some days before such
 “ changes can be brought on the system as
 “ are mentioned in p. 146-7, by which the
 “ Doctor means a catarrh, when got to a
 “ considerable height.” He proceeds and

says—

says—" On such occasions its operation is
" continued, as it were, by prizes or succe-
" five additions. It is not the cold of one
" day, but of several, that is capable of pro-
" ducing such considerable effects on the
" arterial system and mucous gland: these
" at first are of a slight nature, but gradually
" increase according to the circumstances of
" exposure to the weather, and constitution
" of the person, until a præternatural sen-
" sibility and irritability of the system,
" which always accompany and keep pace
" with the morbid effects of cold, arise to
" such a degree as, in conjunction with
" the stimulus of a collection of phlegm in
" the stomach and bowels, from a diseased
" secretion of it in the viscera, an accession
" of the fever is brought on."

From the foregoing enquiry it appears, that when the cold of our atmosphere is productive of catarrhal affections in healthy people,

people, it commonly operates in a partial manner, and, except it be very intense, requires some days (at least it requires to be reiterated at different times) before it is capable of bringing on any considerable morbid affection. Let us now endeavour to find how asthmatics are affected in similar circumstances.

From the violence offered to the lungs in every fit of the asthma, from the origin of the disorder and other causes, it is no way surprising that such a degree of sensibility is induced, as to render these organs very susceptible of the action of cold. Accordingly we find no description of people more subject to slight coughs and catarrhs, than those who are afflicted with the asthma. Nevertheless, every day's experience demonstrates that such attacks do not often terminate in catarrhal fevers, pleurisies, or any disorder accompanied with symptoms of much inflammation,

mation. If this observation be well founded, it must be granted on all sides, that asthmatics *cæteris paribus* are not more liable to inflammatory affections of the lungs than persons who enjoy good health, and are possessed of robust constitutions. It has been commonly remarked by medical writers, that those who labour under spasmodic complaints, are seldom attacked with inflammatory disorders. Exceptions to this general rule, no doubt, will sometimes occur; but the *prædisposition*, so necessary for constituting what is called by physicians the *phlogistic diathesis*, being absent in these cases, the occasional cause must operate with more than ordinary intensity and power, to be capable of producing an inflammatory disorder.

This circumstance alone should, in my opinion, be considered a strong argument in favour of cold-bathing in asthma; for if, in general, people of sound lungs, and good

O constitutions,

constitutions, are injured as materially by the application of cold air as asthmatics, how is it possible that immersion for a few seconds in cold water, that acts equally on every part of the surface at the same time, can be attended with any dangerous or alarming consequence in the asthma ?

But though it should be granted that the lungs of asthmatics are more liable to inflammatory affections from cold air than people in health, does it follow of course that cold-bathing is prejudicial in the asthma ? I apprehend it does not. There are many persons altogether so delicate as to get coughs and colds at almost every blast of sharp air, who find not the smallest inconvenience from bathing in cold water : for, instead of proving hurtful, it is in many cases the best and only remedy for guarding the body against this effect of the air. This appears in a great measure to be the case with asthmatics ;

matics ; and it would be as injudicious to reason from the effects of air to that of water in the one case as in the other. Many causes in the different scenes and occupations of life, which cannot possibly have any influence when cold-bathing is employed, must often co-operate with cold air in injuring the lungs of asthmatics. Thus, the vicissitudes of the seasons, the unguarded exposure to cold and rainy weather, the removing from a warm temperature immediately into a cold one, with various other accidental causes, must frequently prove very considerable auxiliaries to the action of cold air. Compare an asthmatic circumstanced in this manner, to his situation when, in a mild season, he is plunged into the cold-bath ; and can there, with the least propriety, be any analogy established between them ? Can there exist in nature any two causes that appear to differ more widely in their

manner of acting on the human body? The difference of density in the two fluids—the re-action that takes place after the one, and not after the other—the vast length of time a person may be exposed to the air in comparison to that of the water, must totally change any similarity of action that could be supposed to subsist between them. Moreover, it should be taken into consideration, that cold air, when productive of disease, is very frequently applied in a partial manner; while, in bathing, the cold water is applied to every part of the surface at the same time, and, of course, cannot operate so powerfully in bringing on catarrh, or any other dangerous attack of the lungs. Hence, though the lungs of asthmatics be more delicate than those of people in general, and in consequence thereof are more readily disposed to catarrhs and pleurisies from the cold of the atmosphere, still it cannot be inferred that cold-

cold-bathing is a dangerous remedy in the asthma.

But in order to shew more clearly how fallacious it is to reason by analogy from the action of cold air to that of water in any disease whatsoever, I shall take the liberty of advancing a few facts, which, in my apprehension, will place this matter beyond the reach of doubt or uncertainty: they will also prove a full confutation of the last argument that was supposed to be advanced against cold-bathing in the asthma; to wit, that the cold of winter being in general hurtful to asthmatics, cold-bathing must of course be a very precarious remedy in this disorder.

The cold bath is, in many instances, the most effectual remedy in chronic rheumatism, though the cold of our atmosphere in general first gives rise to the disease, and is frequently the sole cause of preventing us

from obtaining a cure. During the intervals of the gout, especially when it has some tendency to an atonic state, cold-bathing has been employed with great success: yet it is universally known, that cold air is pernicious to gouty habits, for in every cold climate the winter is found to aggravate the disease. In some cases of palsy, cold-bathing has proved very powerful in restoring lost sensation and motion; though residing in a cold climate is, for the most part, prejudicial to paralytic limbs. Having finished this defence of cold-bathing in the asthma, we shall endeavour to point out, in the following chapter, the particular forms or varieties of the disease that will admit of its application.

C H A P. VIII.

TO ascertain with any degree of precision those cases of asthma wherein cold-bathing may be used without danger, is an undertaking of much difficulty, from the neglect of physicians with respect to this practice, and the consequent deficiency of facts to guide us in our researches. In truth, the importance of the subject, the apparently dangerous nature of cold-bathing in such a disorder as the asthma, demand our most serious consideration, and should deter us from advancing any doctrine or opinion but what is founded on experiments and accurate observation. Fully per-

suaded

suaded of the propriety of adhering to this system, we will endeavour to regulate our conduct accordingly.

The following are the disorders which, joined to the asthma, may be supposed to preclude the use of cold-bathing. Particular attention will be paid to every combination, and reasons assigned for retaining or exploding the practice in each.

Ulcers in the lungs.

Tubercles.

Inflammation of these organs.

Catarrh, recent.

Catarrh of a long standing, attended with expectoration of much phlegm, as in that species of the disease called humoural.

Plethora, both partial and general.

Dropfy of the chest.

Mal-conformation of the chest.

Difficulty of breathing from various causes.

Ulcers

Ulcers in the lungs, when complicated with asthma, still retain their characteristic marks, and are readily discovered by emaciation, purulent spitting, and other symptoms of consumption of the lungs. When this event has once taken place, it is unnecessary to caution practitioners against the cold-bath in such a situation. The diagnostics, however, are more difficult when tubercles occur at the same time with the asthma.

It is a common opinion with physicians, that when the asthma terminates fatally, it is in general owing to the formation of tubercles, which, in length of time, come to suppuration, and thus produce a pulmonary consumption. Such tumours are said not to supervene for a considerable time after the first appearance of the asthma, and are supposed to arise from the violence done to the lungs by the repeated attacks of the spasms.

In

In some instances the tubercles might have existed previous to the asthma, and acted as an exciting cause to the disorder; but this I believe to be a rare occurrence. In either case, we are to form our opinion of the existence of tubercles, by attending to the following circumstances:

It is supposed that tubercles, from their indolent nature, may remain a long time in the lungs without coming to suppuration, and it is possible that this may sometimes be the case; at the same time, I am persuaded, that they seldom remain for any time in such an indolent state in the lungs of asthmatics, as not to afford some external sign, whereby we can judge of their existence with a high degree of probability. For my part, I have never met with any combination like this, wherein a quickness of pulse, seldom less than ninety strokes in a minute, did not constantly attend it; nay, the more frequent

quent the pulsations were, the more imminent was the danger, and the sooner a pulmonary hectic fever was formed. How is it possible that, in such a disorder as the asthma, tubercles can remain for any length of time in an uninflamed state, since the repeated attacks of the fits must prove such a cause of irritation as will speedily inflame them? Hence, if, in the advanced stage of asthma, a quickness of pulse approaching to fever height, with more or less of difficult breathing, be discovered, it is to be feared that the lungs are obstructed with tubercles. In such circumstances, cold-bathing would be attended with the most pernicious effects. Indeed, without any view whatsoever to tubercles, when such symptoms as quickness of pulse and difficult breathing are combined with the asthma, they are of sufficient magnitude to deter practitioners from any idea of bathing, as they clearly demonstrate that

that the lungs are in a state of inflammation.

: *Catarrh of a long standing, &c.*—The different organs of the human body, as the stomach, intestines, bladder, &c. that are supplied with mucous glands to protect them from the action of various kinds of stimuli, are readily affected by cold, if the slimy matter that lines them happens to be poured out in any considerable quantity. The subjacent nerves, thus stripped of their covering, acquire an uncommon degree of sensibility. In the humid asthma (as it is called), besides that from the spasmodic affection, there is the delicacy in question superadded in consequence of the large quantity of mucus that is at different times discharged by coughing: so that, from reasoning *a priori*, it is not to be supposed that the lungs, in such a state, can possibly escape with

with impunity, if cold-bathing be employed. But however plausible this reasoning may appear, it must still give way to the more solid and irrefragable testimony of facts. If we look back to the cases in which cold-bathing was used, it will be found that the major part of them were attended with a copious discharge of phlegm ; and in place of checking the spitting, and rendering the breathing more difficult as might be expected, the water had always the contrary effect, by promoting this evacuation, and relieving that uneasy sensation of stuffing in the chest.

I have lately had an opportunity of seeing the cold bath afford more relief to a person labouring under an old catarrh, than all the remedies that experience had approved of in that disorder. The patient indeed made the experiment without any medical advice; nor is it to be supposed that any practitioner from theory alone would ven-

ture to give his sanction to a practice fraught with so many appearances of danger. In the chronic stage of dysentery, when a white flux is kept up by the remaining delicate state of the bowels, bathing in the sea was not found to occasion a relapse, or aggravate the prevailing symptoms. Dr. Blane, in his Observations on the Diseases of Seamen, remarks, when treating of the dysentery, that though cold was in general hurtful and unsafe, he saw the sailors, who, from their habits of life, are commonly heedless, bathe in the sea when labouring under what they called the white flux, without any bad effects. In short, if the precautions to be mentioned hereafter be carefully attended to, there is not a doubt but that cold-bathing may be employed with as much safety in the humid asthma, as in any other variety of the disease, on condition that the breathing is not rendered difficult in the intervals

tervals of the fits, by an accumulation of phlegm in the lungs. If this should happen to be the case, it will be necessary, previous to bathing, to evacuate any such matter by emetics, blisters, and medicines intitled expectorants.

Catarrh recent.—Though we have spoken with so much confidence in favour of cold-bathing when asthma is complicated with a catarrhal affection of a long standing, we must totally reject this practice in the case of a recent cough or catarrh. Both these disorders in general proceed from the same source, yet demand very different modes of treatment. In the recent catarrhal complaint, there is always more or less of an inflammatory tendency that requires cooling medicines, and what the physicians term the antiphlogistic regimen; while in the other a state of relaxation takes place, and demands

mands the assistance of stimulants and tonics ; and from them alone can we expect to reap any benefit or advantage. Hence it will readily appear why cold-bathing may be pernicious in the former, though success may attend its application in the latter. No people whatsoever are more subject to slight coughs and catarrhs from cold than asthmatics, and physicians should be very cautious how they prescribe cold-bathing while any degree of this affection exists. It is true, that there are few instances of asthma in which we do not find a cough more or less troublesome attending them, and that too in the intervals of the fits ; but a little attention will render us capable of distinguishing this habitual cough, the concomitant of asthma, from that which had been lately caught by exposing the body to cold air.

When a person labouring under the asthma

asthma has, in the common phrase, caught cold, he finds his cough, if he had one before, very much aggravated—his chest unusually bound—a stuffing in his head, with other symptoms expressive of the operation of cold. From the delicate state of the lungs in asthma, we may often expect to find such effects as these ; and though, when considered as constituting a morbid affection, they do not generally arise to such a pitch as to be attended with much danger, cold-bathing, nevertheless, cannot be used with any safety during their prevalence.

Plethora.—In corpulent and plethoric habits, a fullness or accumulation of blood in the vessels of the lungs, seems in a good measure to contribute to the asthma; and the idea receives weight from this circumstance, that the application of cold, which is very powerful in bringing on internal congestion,

is most commonly the exciting cause of the first attack. From this account, and from the nature of the remedies that are found to succeed in plethoric asthma, as bleeding, blistering, &c. it may appear rashness in the extreme to suggest such a method of cure as cold-bathing; for the difficult breathing that so constantly takes place in this form of the disease, and that too, in all probability, from some degree of obstruction in the lungs, together with the fullness of the habit itself, are circumstances so unfavourable to cold-bathing, that, in every case where such symptoms occur, the practice cannot be too strongly reprobated. But there are probably instances of asthma that can with propriety be called plethoric, wherein cold-bathing may be applied without danger. For example, if, after general and topical evacuations, by means of bleeding, blistering, &c. the disorder be brought to have complete

complete intermissions, with a regular pulse, while at the same time no difficulty of breathing, or tightness across the chest is discoverable, there cannot be any solid objection to a trial of cold-bathing.

But, on the other hand, if proper evacuations have been omitted, or if, with their assistance, the necessary intermissions have not taken place, and that the patient labours under oppressed or uneasy breathing, every idea of cold-bathing should be laid aside, as a rupture of some blood-vessel in the lungs, or some other attack equally alarming, may be the reward of our temerity.

As some doubts may arise about the precise meaning of plethoric asthma, I think it necessary to point out the sense to which I would have it restricted in this place. It is universally allowed, that a plethoric state of the system may actually take place in habits that have very little appearance of obesity.

Those of sanguine temperaments, and robust constitutions, without arriving at that state which may be properly called corpulent, are the persons, I believe, most liable to a general plethora ; and to such only would I allow the use of cold-bathing. When obesity occurs in any considerable degree, a partial plethora will be the consequence, from a greater determination of blood than ordinary to certain organs ; and it is principally from this circumstance of inequality in the distribution of the blood, and not so much from the idea of a general plethora, that cold-bathing should be condemned in corpulent and bloated habits.

People of this description should be very cautious how they make a practice of cold-bathing, though they have at different times escaped with impunity, as the rupture of a blood-vessel in the head or lungs is always to be dreaded ; and the probability of such

such an event taking place should never be lost sight of.

Mal-conformation of the Chest.—Many persons afflicted with asthma have their chests so narrow and contracted, as might lead to an opinion of the disorder originating in such a formation. Whether this be the case or no, the fact is, that a plethora in the lungs may be often the consequence of this deformity; and the greatest danger to be apprehended in such a case, is the rupture of some blood-vessel in the lungs, from the change that takes place in the circulation during the time of bathing. A constant and uniform effect of cold water on the human body, is a languid circulation of the blood at the surface, and a proportional increase of this fluid in the internal parts, so that we can easily conceive how an asthmatic, with a chest so deformed as to give rise

to a plethora *ad spatum* in the lungs, may be attacked with spitting of blood from bathing in cold water. To obviate such an event, blood-letting may be employed, if it can be done with safety; the stomach and bowels be emptied, and, perhaps, a blister applied to the chest, as a topical evacuation in this case may be more effectual in removing the plethora than a general one, which acts on the system at large. Particular care should be taken to have the stomach empty in this variety of asthma previous to bathing, as any fullness or distension of this organ, by pressing on the diaphragm, must impede the expansion of the lungs, and in this manner co-operate with the water in bringing on a discharge of blood.

Dropsey of the Chest.—It is possible that in an early stage we may find this disorder complicated

complicated with asthma. In general, however, we must look for such a combination at an advanced period of the disease when its long continuance, and the injury offered to the lungs by its frequent repetition, will in a great measure account for the presence of water in the chest. The characteristic symptoms of water in the chest are on many occasions so very obscure, that the most discerning physician may be mistaken in his diagnostics: but when the symptoms of this disorder, as described by medical writers in general, supervene an asthma of any long standing, there can then be no doubt of its existence. Even though we should not be able to form a decisive opinion about the nature of this complaint, no bad consequence can possibly follow, as the reigning symptoms will fully point out the danger that must attend cold-bathing in such a situation.

Difficult breathing.—Though some observations have been made on this subject already, it is necessary to give it a more ample discussion in this place, as will appear by what follows:

As the greatest expectations are to be entertained from cold-bathing when the breathing is free and natural in the intervals of the paroxysms, so the more it deviates from this state, and takes on the form of uninterrupted difficult breathing, the more dangerous is the bath, and the more cautious we should be in making use of it. But if cold-bathing be confined to that form of asthma wherein the breathing is perfectly free when the fit passes off, we will, in the greater number of cases, be deprived of any benefit that may arise from it. That it may be more generally employed, and even extended to asthmatics with uneasy breathing, appears very clearly from the success that attended

tended the practice in similar cases ; for in most of the patients on whom the experiment was made, the breathing was more or less affected in the intervals of the fits.

Much discernment, however, is necessary for ascertaining the particular cases to which cold-bathing is applicable. In every instance where we can trace the affection of the breathing to plethora, tubercles, or obstructions of any kind, cold-bathing (as we noticed before) would be absolutely pernicious : it is in such cases only where the breathing is hurt by a spasmodic affection, that it can be ventured upon with any degree of safety. To distinguish the one from the other, it will be necessary to attend to the following particulars :

The breathing in the former is generally difficult, oppressed, and readily hurried by any exertion that accelerates the motion of the blood through the lungs. In the latter,

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the patient complains of a stricture at the sternum, with a sense of weight pressing on the chest, and impeding the free expansion of the lungs. Together with this, the breathing will be sometimes found uneasy and readily hurried by motion, but by no means of so violent or permanent a nature as that which attends obstructions. When obstructions exist, the pulse is often quick and irregular; while, in the mere spasmodic affection, it is seldom quicker than the natural state *. After examining the patient with due attention, if we have any doubts on our mind with respect to the origin of the complaint, it may perhaps be useful to direct some powerful antispasmodic before we proceed any farther. If, during the operation of any medicine of this class, the uneasiness of breathing and stricture at the sternum be removed, we may, without hesitation, con-

* Vide p. 22.

clude

clude that the affection is truly spasmodic, and on this presumption recommend the use of cold-bathing.

Persons advanced in years, from the languid state of the circulation, and the diminution of the vital powers, do not, in general, bear with impunity the change of temperature from our atmosphere to that of cold water. If the event of such a transition be dreaded when no disorder discovers itself, what evils are we not to apprehend when the asthma is added to years ! What time of life should then be fixed upon as a boundary which we are not to transgress in directing the bath for asthmatics ? It is impossible to determine this point with any degree of certainty. Different constitutions at the same time of life resist, with such various diversity of power, the operation of noxious causes, that no criterion or standard can be established for regulating a matter of

of this kind. The remarkable success from cold-bathing in the case of Holland, near the age of fifty, demonstrates that, at such a period, asthmatics are not to be deprived of this remedy, except some disorder be added to the asthma, that would, from its nature, absolutely preclude it.

If we can rely upon the authority of Sir John Floyer, an asthmatic of sixty not only escaped with impunity, but obtained great benefit from cold-bathing. However, it is much to be dreaded that, at such an advanced period of life as this, the remedy would prove a greater evil than the disease, not merely from the debility that attends old age, but more especially from this circumstance, that the asthma of old people seldom appears in a simple form, but is generally complicated with obstructions of the internal parts, or such an affection of the lungs as must render cold-bathing highly pernicious.

C H A P. IX.

HAVING pointed out in the preceding chapter the particular varieties or forms of asthma that admit of cold-bathing, we will now beg leave to offer some instructions to asthmatics on the manner of using it to advantage.

In every case, before the patient attempts to bathe, it will be proper to empty the stomach and bowels, in order to give the lungs as much room as possible to act ; and if he be of a full habit, a small bleeding may, on some occasions, be necessary. When any stricture is felt at the chest affecting the breathing, though no signs of obstruction exist, it will, in general, be a prudent

prudent measure to apply a blistering plaster to this part, and keep it open for a few days. Among the greater number of asthmatics, very few, I believe, can be found who on first exposing their bodies to the open air, as in the common way of cold-bathing, that are not liable to be affected with cough or catarrh; at least I had an opportunity of seeing several instances of this, though the patients were dressed and undressed with the utmost expedition, and received but one or two shocks from the water. This should put practitioners on their guard, and render them very cautious how they allow their asthmatic patients to bathe in open air on the first onset, for an interruption to the bath at best will often be the consequence, by means of a cough or some slight catarrhal complaint; and if, in such a situation, the bathing be continued, those salutary effects we were taught to expect will be defeated,

or

or something of a more serious nature may happen. It is always an easy matter to provide a temporary covered bath ; and as our future success in a great measure depends upon such a preparatory step, it should be established as a general rule, with hardly an exception, never to omit it *.

After bathing in this manner for sometime, the surface of the body, and of course the internal organs, become more and more insensible to the action of the external air, till at length the body may be exposed to it with impunity, as long as is necessary for any purpose

* In preparing a bath of this sort, it should be contrived in such a manner as to have it strongly impregnated with salt : for, in the generality of cases, fresh water will not agree with the lungs of asthmatics. A person afflicted with the asthma was advised to go into a cold bath ; and as it was imagined that fresh water would answer the purpose, the patient went into it every morning for the space of a fortnight, without the smallest benefit ; but by adding a large quantity of salt to the water, the most visible good effects from it immediately appeared.

intended by the bath. This effect of the cold bath in rendering the surface more insensible to the operation of cold air, is not one of the least important advantages that attend it: for asthmatics in general, from this cause, are so subject to coughs and catarrhs, which often terminate in an attack of the asthma, or something more serious, that the utmost care and circumspection, the most powerful and approved of remedies, without the assistance of cold-bathing, will not be sufficient to guard against a relapse. However, no consideration of its utility in this way should make us tedious in our after-bathings in open air: the patient, as soon as he is undressed, should be plunged into the water without the smallest hesitation, and as quickly taken out, after receiving one or two shocks.

In some complaints, especially those of infants, for which cold-bathing is deemed necessary,

necessary, it has been found useful to raise the temperature of the water, by adding a certain portion of warm water to the cold, till, by degrees, the body is brought to bear the cold water without any addition. This is done in order to guard against any untoward accident that may happen, by suddenly removing the patient from a moderately warm to a comparatively cold medium. In no disorder whatsoever does this precaution about cold-bathing appear more requisite than in the asthma; for, independently of the disordered state of the lungs, the constitution of asthmatics, from the change that has been wrought in it, will not probably bear with impunity such a sudden transition.

After the body is sufficiently prepared according to the foregoing directions, sea-bathing, if the season offer, should be directed, as the re-action after it is more perfect than after fresh water, as it stimulates more

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powerfully

powerfully the vessels of the skin, and thus promotes a glow at the surface, and an increase of the insensible perspiration. But the time usually spent in sea-bathing may not, in general, be of sufficient duration to accomplish a radical cure, and of course prevent a relapse from taking place ; so that it will often be necessary to make use of an artificial salt-bath as a succedaneum, which can be resorted to in the winter, and continued during the whole season.

Having thus acquitted myself as well as I was able on the subject of cold-bathing in asthma, before I conclude this Treatise, some apology may appear necessary for recommending so free and extensive an application of this remedy. Those who have not had proper opportunities of making observations on it, may be apt to condemn a practice which, from reasoning *a priori*,

would not only appear absurd in itself, but fraught on many occasions with the most imminent danger. However, it is but fair that they should suspend their judgment till the test of experiment enable them to decide with precision. Unwilling to obtrude any remedy on the Public, without the most convincing proofs in its favour, I desire no co-incidence of opinion, no approbation, except what candour will extort from every practitioner who draws his information from the same source that I draw mine.

F. I. N. I. S.

